



## 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.
8. The school or its district has in place and is willing to provide a link to or a copy of a non-discrimination policy, upon request. The U.S. Department of Education reserves the right to disqualify a nomination and/or rescind an award if unlawful discrimination is later discovered.

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

Name of Principal:

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

Official School Name:

(As it should appear on an award)

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

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

 Digitally signed by Bob Ogle  
Date: 2023.12.01 09:23:54 -08'00'

Date:

(Principal's Signature)

Name of Superintendent:

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



District Name:

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

Digitally signed by Bob Ogle  
Date: 2023.12.01 09:24:36 -08'00' Date:

**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:

Name of Nominating Authority:   
(Specify: Ms., 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)

**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: October 31, 2026

**Public Burden Statement**

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



# *Pacific Ridge School*

California Private School Nominee to  
U.S. Department of Education Green Ribbon Schools



Prepared By:  
California Department of Education  
School Facilities and Transportation Services Division  
[Green Ribbon Schools Award Program](#)  
January 2024



## PART II – SUMMARY OF ACHIEVEMENTS

### **Pacific Ridge School, Carlsbad, Calif.**

#### *Environmental Stewardship Through Service Learning*

Pacific Ridge students participate in Service-Learning projects in collaboration with local sustainability-focused organizations for beach clean-ups and wildlife conservation efforts. Moreover, the school's Global Travel program provides students with opportunities to learn about the economic dynamics, sustainable strategies of different cultures, and place-based environmental concepts. Pacific Ridge School's Upper School Urban Agriculture Club manages an organic garden, sharing its produce with the community through on-campus 'farmers markets' to raise funds supporting garden projects. The school reduces energy consumption using high-efficiency lighting and Heating, Ventilation, and Air Conditioning systems. They also use solar panels to generate 85% of the school's electricity. The school uses 100% reclaimed water for irrigation to conserve water and has adopted mulch and drip systems. They also encourage waste reduction by using reusable items, compostable serveware, and a three-bin sorting system for green waste, mixed recycling, and landfill waste.

## PART III – DOCUMENTATION OF STATE EVALUATION OF SCHOOL NOMINEE

### **Pillar I: Reduce Environmental Impact and Costs**

#### *Element IA: Energy*

- Pacific Ridge School (Pacific Ridge) has an energy action plan as part of the campus master plan, including the recent addition of solar panels. The school's solar panels provide 85% of its energy needs. With the future construction of the final campus building, the additional planned solar panels will provide the remaining 15% of energy usage. The plan also includes utilizing solar energy production software to help monitor and manage electricity production and ideas for reducing overall usage on campus.
- In 2010, Pacific Ridge participated in the San Diego Gas and Electric (SDG&E) Sustainable Communities project to install a 1500-square-foot solar array on the roof of its Upper School building.
- Pacific Ridge's local utility, SDG&E, provides 17% more renewable energy than the utility's portfolio minimum, which is currently 25%. SDG&E reports that 42% of the energy provided to customers comes from renewable sources, including wind, solar and nuclear.
- The school has several energy conservation designs around the school campus, including the following:
  - Lighting retrofit with compact fluorescent lightbulbs (CFL) bulbs across campus.
  - Classrooms have *SolaTubes* in ceilings to increase daylighting.
  - Lighting has motion and sound detectors.
  - Centrally controlled Heating, Ventilation, and Air Conditioning (HVAC) system with set heating/cooling balance points.
  - Passive cooling construction eliminates the need for HVAC in large public spaces.

- Electrical equipment and appliances are high efficiency (ENERGY STAR rated or equivalent).
- Shade trees are planted near classroom windows on campus to cool classrooms. Shade trees have also been planted near outdoor HVAC units to shade units.
- The school prioritizes green features in its building design. The Upper School building, Mullady Hall, was built in 2010 and received Leadership in Energy and Environmental Design (LEED) Gold certification. Since then, all construction projects have included green building standards.
- In the campus construction, Pacific Ridge has limited the overall amount of pavement on campus and required the installation of light-colored walkways to reduce the heat island effect. To minimize pavement, the school prioritizes landscaping beds, including shade trees and green space in all campus construction.
- Pacific Ridge participates in the *Green Cup Challenge* sponsored by the Green Schools Alliance. The challenge is a month-long competition in January among schools across the United States to reduce energy consumption. Pacific Ridge engages in the national competition and conducts an internal competition between the Middle School and Upper School. Energy consumption is tracked weekly by students in both divisions and compared to baseline data for both buildings. The community is encouraged to reduce energy use through daylighting, holding classes outside when possible, turning off classroom HVAC units, and turning off electronics when not in use. Last year, the Middle School achieved a 2.5% reduction, and the Upper School achieved a 7.2% reduction over the four weeks.

### *Element IB: Water and Grounds*

- Pacific Ridge documents a 38.5% reduction in outdoor water use from 2015 to 2022. The school attributes the reduction to the following:
  - Pacific Ridge Facilities staff monitors water usage to detect any leaks. If there is a leak, the facilities staff address it immediately.
  - All plumbing fixtures on campus are water-efficient, from low-flush toilets to waterless urinals and low-flow showers and faucets.
  - To limit water use, the school replaced grass in some areas with artificial turf.
  - The campus irrigation system utilizes water-efficient delivery methods such as optimal watering times (not midday) and drip irrigation.
  - All the campus landscaping beds incorporate mulch to conserve water. School personnel replace mulch annually as it decomposes.
  - Newer parking lots also have permeable pavement to reduce runoff and allow water absorption.
  - The school has multiple stone and plant bioswales to collect water runoff from parking areas.
- Approximately 75% of all campus landscaping plants, such as coastal Live Oak and sages, are water efficient and regionally appropriate to southern California. Landscaping also includes drought-tolerant succulents, such as aeonium and agave, in many planting beds near buildings. In addition, all irrigation water is reclaimed water provided by the Carlsbad Water District.
- Twenty-five percent of the school's grounds are devoted to ecologically beneficial uses. The campus landscaping includes plants that encourage butterflies, birds, and

honeybees on campus and provide habitat for them. Pacific Ridge has a barn owl box on campus, providing a habitat for the owls, while also providing an integrated pest management feature to campus. Pacific Ridge preferentially chooses native plants in the campus landscaping. The school has an outdoor amphitheater and covered patio that act as outdoor classrooms. Classes also use outdoor lunch areas as informal outdoor classrooms.

- Students and faculty chaperones use water purifiers during school-sponsored *Pacific Ridge Global Programs* backcountry hiking trips when municipal water supplies are unavailable. Participants collect water from streams and use a purifier to ensure that the water is safe to consume, thus eliminating the need to purchase bottled water

### *Element IC: Waste*

- The school records a 50% waste diversion rate through composting and recycling. The Facilities Manager and Sustainability Coordinator track waste and recycling in campus dumpsters (landfill and mixed stream recycling) for volume before pickup.
- Pacific Ridge recently installed a new three-bin waste sorting system to include green waste collection throughout campus, including lunch food waste, to comply with the recent California green waste disposal regulations. The waste sorting systems have bins for landfill waste, mixed recycling, and green waste.
- Pacific Ridge encourages school lunch vendors to provide compostable serveware whenever possible to divert waste away from landfill waste. Similarly, the school encourages the use of compostable materials at all on-campus events. In addition, the new waste sorting systems and regular green waste pickup by Republic Waste Management Services, Pacific Ridge, can manage a larger volume of green waste.
- The school locally acquires compost for the on-campus garden and mulch for landscaping, sourcing from nearby suppliers, including compost from a local mushroom farm.
- Pacific Ridge strives to use very little hazardous material on campus. The school stores hazardous materials in chemical storage rooms in locked cabinets per Occupational Safety and Health Administration (OSHA) standards. Pacific Ridge does not keep anything containing mercury on campus.
- The school prioritizes products with recycled content, the ability to be reused (refillable pens and batteries), and third-party ecological certifications. The Facilities Manager and Sustainability Coordinator work together to research green products. Additionally, the Sustainability Council, comprised of student leaders, faculty, and staff, periodically reviews campus purchases to determine if green alternatives are available.
- Pacific Ridge purchases ecologically responsible products, like compostable coffee cups, instead of plastic or paper. The school also only uses post-consumer material paper and fiber from forests certified as responsibly managed and chlorine-free.
- Pacific Ridge is reducing paper use on campus by moving all classes to an online platform. Homework, readings, and notifications are all transmitted electronically. The school has also replaced paper flyers with monitor screens for announcements in public areas.

### *Element ID: Alternative Transportation*

- To determine alternate modes of transportation, the school surveyed the student body. The survey determined that 36% of their students carpool, 10% use the school bus, 2% walk, and 2% use human-powered modes of transportation (i.e., bike, scooter, skateboard).
- Pacific Ridge has installed multiple rack systems throughout campus to encourage human-powered modes of transportation to school, such as bicycles. The school also provides storage for skateboards and scooters. Additionally, faculty and staff have access to secured locker rooms to store these items during the school day.
- The school requires parent vehicles and buses to turn off their engines when waiting to pick up students. School security staff will remind parents of the school's no-idling policy when necessary.
- Vehicle loading and unloading areas are more than 25 feet from building intakes, doors, and windows for both the Middle School and Upper School. The line of vehicles waiting to drop off and pick up may be within 25 feet, but the school's no-idling policy prevents exposure to vehicle emissions inside buildings.
- Pacific Ridge owns five 10-passenger buses for small groups. School personnel match vehicle size to passenger number for off-campus activities (field trips and athletic games) so that the vehicle is the correct size for the group. The school also uses gasoline or alternative-fuel vehicles instead of diesel whenever possible.

## **Pillar II: Improve the Health and Wellness of Students and Staff**

### *Element IIA: Environmental Health*

- Pacific Ridge contracts with Lloyd's Pest Control (LPC) for campus pest management and follows an Integrated Pest Management (IPM) approach. LPC adheres to the *Healthy Schools Act*. The school limits pesticide use on campus whenever possible. The campus is inspected every two weeks for pests, and both Pacific Ridge Facilities staff and LPC keep records. An entomologist at LPC identifies any pests before treatment and gives recommendations. Pacific Ridge's IPM includes strategies for pesticide-free pest management on campus, including manual removal, sanitation practices, drought-tolerant landscaping, and exclusion devices.
- Pacific Ridge has never had any elemental mercury sources on campus, and the school does not allow the purchase or use of mercury-containing products. In addition, San Diego is in a zone with low amounts of Radon in the soil and bedrock. Therefore, radon testing is not necessary for indoor structures.
- Pacific Ridge has a chemical management program that strongly encourages purchasing less toxic art supplies, science supplies, furniture, and cleaning products. Department chairs review class supply orders and recommend safer alternatives when toxic products are requested. In addition, Pacific Ridge requires custodial staff to use Green Seal and Eco-Logo-certified cleaning products.
- Custodial staff uses chemicals to clean areas only when not in use, after school hours, and during specific periods during the day, such as after lunch, to minimize community exposure. The custodial staff uses green products when cleaning all surfaces, including floors and carpets.
- School staff label and store chemicals on campus per Occupational Safety and Health Administration (OSHA) standards and dispose of hazardous waste properly. The

Facilities Manager also keeps Safety Data Sheets on file for all chemicals stored on campus. Pacific Ridge restricts access to all chemical inventories using locked cabinets and secured chemical storage rooms. Chemical waste is collected per OSHA standards and collected by the district's hazardous waste disposal company, Clean Harbors, at set intervals to avoid storing excess chemical waste on campus.

- The Facilities Manager trains all staff using hazardous chemicals on safe handling practices. The district uses safe alternatives to hazardous chemicals whenever possible to minimize exposure and waste disposal needs.
- Pacific Ridge employs various measures to mitigate exposure to asthma triggers on campus, including:
  - Installation of HEPA air filters in heating, ventilation, and air conditioning (HVAC) systems across all buildings, effectively filtering out asthma triggers like pollen and dust.
  - Utilization of vacuums equipped with HEPA filters.
  - Regularly cleaning and wiping surfaces to minimize airborne dust.
  - Prohibition of pets in classroom buildings and the athletic center to reduce dander.
  - Routine checks by Pacific Ridge Facilities staff on HVAC units and plumbing to identify leaks and prevent mold.
  - Timely landscaping activities conducted before and after the school day to minimize exposure to pollen and dust.
  - Implementation of EcoLogo and Green Seal cleaning products, certified as asthma-safe, by custodial staff.
- Pacific Ridge staff purposefully incorporated design elements in their buildings to enhance indoor environmental quality across construction projects. Key design considerations encompass:
  - Insulated rooms and ceilings constructed for optimal acoustics, including incorporating acoustic panels in larger spaces to minimize background noise.
  - Integration of SolaTubes, large windows, and windows with light shelves at the top to reflect ambient light into the classroom classrooms to maximize natural light. Buildings are strategically designed for daylighting, ensuring windows are oriented to capture maximum light. Classrooms offer views of nature and trees directly outside the windows or on adjacent hillsides, featuring native chaparral vegetation.
  - Installation of compact fluorescent lightbulbs (CFL) lights in classrooms and public spaces to ensure consistent lighting when daylight is insufficient.
  - Maintenance of HVAC units to control classroom humidity within the 40-60% range.
  - Inclusion of functional windows, doors, and garage doors in campus building designs to facilitate adequate ventilation with outside air. These structures are regularly open throughout the school day, leveraging the local temperate climate.
  - Connection of classrooms to a balanced HVAC system, monitored quarterly to meet California state ventilation requirements and ensure air quality.
- Amid the global pandemic, the school's Facilities staff implemented and sustained the installation of HEPA filters on all HVAC units. These filters underwent scheduled changes following relevant guidelines to uphold optimal indoor air quality. These



ventilation practices remain integral to the maintenance plan for all HVAC systems post-pandemic.

- Facilities staff control moisture on campus by regularly inspecting HVAC and plumbing systems. When a leak occurs in an HVAC unit, technicians promptly remove and replace the wet materials. Technicians vacuum effluent lines to ensure proper drainage and thoroughly dry the area with fans to prevent mold growth.
- Pacific Ridge has implemented the Environmental Protection Agency (EPA) Indoor Air Quality (IAQ) *Tools for Schools* to troubleshoot potential IAQ problems within day-to-day school operations. Fortunately, the school has not experienced any major IAQ problems outside of construction dust on campus.
- Pacific Ridge conducts periodic air quality tests in all campus buildings to determine particulate levels. Quality tests occur more often during construction phases to determine whether the construction projects have been affecting indoor air quality. When the projects produce high amounts of particulates, the Facilities staff ensures that windows and doors facing the projects are closed. Additionally, HVAC systems are employed to filter the air.
- The school addresses air quality in locations requiring additional measures with individual vented hood systems. These locations include upper school science lab classrooms (managing chemical fumes in lab experiments), the wood shop (removing wood dust and chemicals from the air), and the fabrication studio (mitigating chemical fumes created by a laser cutter and 3D printer).
- The school does not have any products containing lead on campus. Moreover, the school site underwent soil testing through samples before the initial construction to check for the presence of lead. The inspection detected no traces of lead in the soil. In addition, Pacific Ridge's campus was first built in 2007, avoiding the use of most materials containing lead on campus.
- Carlsbad Water District monitors the municipal water supply and includes the removal of organic and inorganic contaminants as part of its pre-consumer water treatment process. Pacific Ridge also has water filtration devices on all drinking fountains that further eliminate any remaining contaminants from the water provided to community members.
- Pacific Ridge has planted many broadleaf trees on campus to help capture outdoor air pollution, improve air quality, and provide shade.

### *Element IIB: Nutrition and Fitness*

- Pacific Ridge's lunch program for faculty, staff, and students provides local organic food whenever possible. Nutrition education is available through student Health classes, e-flyers, and wellness programs via health insurance providers.
- Pacific Ridge School has an organic garden maintained by the Upper School Urban Agriculture Club. Produce from the school garden is shared with community members through periodic "farmers markets" on campus, and any funds raised help to support garden projects.
- Seventh through tenth-grade students spend a required 150-225 minutes weekly in Physical Education (PE) classes. More than 75% of PE classes occur outside since the local weather allows for outdoor PE year-round.
- Pacific Ridge students and staff participate in various outdoor activities beyond those mandated by physical education requirements, including the following:

- Activity clubs like the Urban Agriculture and Surf and Skate Club meet 75 minutes weekly.
- Service-learning groups in both the Middle and Upper Schools complete regular beach clean-ups, which take place outdoors.
- Interscholastic sports teams practice and compete outdoors for five to six hours per week.
- Students, faculty, and staff all eat lunch outside every day.
- Schoolwide global travel at the end of the school year includes outdoor education and experiences for all grade levels. Examples include hiking in San Bernardino (in sixth grade), backpacking in the Sierra Mountains (in ninth grade), and coral reef studies in French Polynesia (high school juniors and seniors).
- Pacific Ridge has a wellness committee for faculty and staff and a committee for students. The school runs programming for faculty and students with workshops on stress, time management, sleep, healthy eating, and decompression sessions.
- Over 75% of Pacific Ridge students participate in the EPA *SunWise* program during elementary or middle school. Pacific Ridge also includes a curriculum on sun safety in the required Health curriculum.
- The school provides multiple gym discounts to faculty and staff for local gyms. In addition, the school offers pickup basketball and open gym hours on weekends for faculty and staff.
- Wellness opportunities throughout the year for faculty and staff include yoga classes, "boot camp" sessions, weight training sessions, healthy eating workshops, stress and well-being workshops, and campus chair massages.
- Pacific Ridge uses a *Coordinated School Health* approach to address school health issues, which includes the following:
  - The School Health Team, including the Head of School Life, School Nurses, School Psychologist, Learning Specialists, Health Teachers, Grade Level Deans, and Division Heads, all work together to ensure the health and well-being of the students.
  - School administration supports the school's health and wellness programs and hires appropriate staff as the school grows.
  - The School Nurses, Psychologists, or Learning Specialists act as school health coordinators.
  - The school supports student health through health classes, Community Life programs, the School Psychologist, Learning Specialist consultations and Diversity, Inclusion, Multiculturalism, and Equity (DIME) affinity and alliance groups.
  - Student-led groups such as Peer Ear, mentoring programs, and peer tutors allow students to support each other.
  - Address health-enhancing and risky behaviors in Health classes and programs such as the school's drug and alcohol awareness program.
- Pacific Ridge employs a full-time school nurse on campus daily. The school also employs an athletic trainer, a psychologist, and a learning specialist. All faculty and staff are CPR and First Aid certified; over 75% of faculty are Wilderness First Aid or Wilderness First Responder certified.

- The school regularly invites outside speakers to Health classes to present on topics such as organ donation, suicide prevention, and mental health. Pacific Ridge also brings in a guest speaker every three years to talk with students about cybersafety and cyberbullying.
- Pacific Ridge administers the following programs on campus to support student mental health:
  - Grade-level teams meet once a week to discuss student progress and concerns.
  - The Student Support Center is open during the school day, and four Student Support Counselors are available to meet with students individually by appointment.
  - The school encourages students, faculty, and staff to participate in the *No Place for Hate* anti-bullying campaign.
  - Peer-to-peer counseling includes the *Peer Ear*-peer counseling program, the *Blue Key* ninth and twelfth-grade student mentoring program in Upper School, and the sixth and eighth-grade *Peer Buddy* mentoring program in Middle School.
  - DIME affinity groups: Middle Eastern North African Students (MENA), Black Students Union (BSU), Asian American Pacific Islanders Students (AAPI), Jewish Affinity Group (JAG), Latinx Unidos, Neurodivergent Affinity, First Generation College
  - DIME alliance groups: South Asian Alliance (SAA), Gender-Sexuality Alliance (GSA), Feminist United Group (FUG), Multicultural Alliance (MCA), Anti-Racist Group (ARG)
  - The Faculty BIPOC (biracial, indigenous, and people of color) group meets monthly.
  - College Guidance counselors help students through the college process.
  - Eighth-grade Health curriculum focuses on student mental health and interactions with others.
  - All coaches are certified through the Positive Coaching Alliance (PCA). Athletes and parents of interscholastic athletes also complete PCA training.
  - Pacific Ridge's Community Life period (weekly all-school meeting time) frequently includes a guest speaker discussing mental health issues and how to be a good global citizen.

### **Pillar III: Provide Effective Environmental and Sustainability Education**

#### *Element IIIA: Interdisciplinary Learning*

- Pacific Ridge addresses environmental sustainability, stewardship, and literacy in its mission statement, which states the following: "To address that part of the Pacific Ridge's mission that seeks to graduate young people with a sense of ethical responsibility and a purposeful life, we must be vigilant in our efforts to prepare future generations for stewardship of the environment. Pacific Ridge will work to educate our community about environmental issues and sound environmental practices through curricular studies across the grade levels."
- At every grade level, the school works to educate students about current and future environmental issues, including but not limited to water shortages. Pacific Ridge integrates *California's Next Generation Science Standards (CA-NGSS) Environmental Principles and Concepts (EP&Cs)* into its curriculum in multiple disciplines such as

World Languages (Spanish, French, Mandarin), Economics, and STEAM (Science, Technology, Engineering, Art, and Mathematics). Electives expand on what students have previously learned and help to connect the science-focused curriculum to a more extensive overarching understanding.

- The school's CA-NGSS-aligned science curriculum includes units focused on the environment in all sixth through twelfth-grade courses, leading to student environmental literacy. The units of study encompass various topics such as ecology and evolution (sixth grade), renewable energy sources (sixth grade), the carbon cycle and solutions to climate change (seventh grade), sustaining local and global biodiversity (eighth grade), anthropogenic climate change and climate justice (ninth grade), and the carbon cycle and ocean acidification (tenth grade). Additionally, eleventh and twelfth-grade science electives integrate environmental literacy concepts, including Advanced Placement (AP) Environmental Science, Honors Environmental Science, Marine Biology, Honors Physics, and Engineering.
- During the sustainable agriculture unit in AP Environmental Science, Pacific Ridge's garden serves as a model for backyard gardening. Topics discussed include how someone could begin gardening at home, seasonal crop rotation, pest control, and home composting.
- The Urban Agriculture Club maintains the garden and the indoor hydroponic and aquaponic systems, producing edible greens (lettuce, kale, and chard). In class, teachers discuss these systems as alternatives when soil is unavailable. Middle school service-learning groups also help with planting seedlings or weeding when the group does not have a scheduled activity.
- The school provides ongoing training and education for school faculty and staff regarding environmental education, as well as acting as a resource for class projects and integrating topics into curriculum units. Training and education have included:
  - Lunch waste sorting best practices and how to reduce landfill waste on campus.
  - Training on the use of refillable whiteboard markers in the classroom.
  - Explanation of preferential purchasing procedures best practices
  - Participation in campus-wide "black-out" activities as organized by student groups.
  - The school reports campus sustainability benchmarking results and areas for improvement to provide insights into its environmental performance.
- Pacific Ridge employs campus sustainable systems and utilizes the surrounding grounds and neighborhoods for student education. Within the Service Learning groups, Pacific Ridge motivates students to assess existing systems and suggest enhancements to enhance efficiency and minimize environmental impact. These groups also dedicate efforts to identifying and labeling native plant species on campus.
- The school fosters environmental literacy through class-based field trips, including the following:
  - Eleventh and twelfth-grade Marine Biology classes studying marine life at the Museum of Natural History in San Diego and local tidepools.
  - Eleventh and twelfth-grade AP/Honors Environmental Science classes visit Coastal Roots Farm in Encinitas to learn about regenerative agricultural practices.
  - Sixth and eighth-grade students explore ecology and conservation biology at the San Diego Zoo and Safari Park as part of their science requirements.

- Eleventh and twelfth-grade AP Environmental Science classes benefit from campus visits by Carlsbad Aquafarm, focusing on learning about protecting the local natural ecosystem.
- The school provides students access to building energy data, enabling them to analyze and understand the institution's energy consumption. Beyond the campus, students have visited wildfire burn sites in the neighborhood to study ecological succession and discuss wildfire policies and prevention. Moreover, students have actively contributed to local trail systems by removing invasive species such as mustard.

### *Element IIIB: STEM Content, Knowledge, and Skills*

- Pacific Ridge science classes use sustainability topics and the environment as case studies when approaching Science, Technology, Engineering, and Math (STEM) content and thinking skills. Students analyze data in laboratory activities or upon reading a journal article to reach meaningful conclusions. The data focuses on environmental concerns like water and air quality or temperature and carbon dioxide fluctuations. Case studies also allow students to work together to solve complex problems, such as how to create new national parks to protect biodiversity.
- Students can explore diverse content in Science, Technology, Engineering, Arts, and Math (STEAM) elective courses, including Landscape Design, Surfing, and Sustainability and the Sea. In past projects, students involved researched planting native and drought-tolerant plants in campus landscaping beds and designed surfboards using sustainable materials like bio-based resins.
- The school's Service-Learning program empowers students to actively seek solutions to community-based problems, such as preventing stormwater pollution, removing invasive species, and diverting landfill waste.
- Students actively participate in discussions about green construction practices and features, contributing to developing environmentally friendly aspects on campus. The Alternative Energy Sources (AES) service-learning group addresses on-campus challenges, such as constructing a wind turbine and refining high-quality biodiesel from used cooking oil. For the latter, students successfully identified a suitable generator, restored it, and produced the biodiesel needed to power all electrical equipment for an on-campus prom.
- The Astronomy Club installs a telescope at on-campus events, urging fellow students to observe stars or a solar eclipse. During telescope use, Astro Club members initiate discussions on light pollution and its impact on the visibility of stars.
- Pacific Ridge engages students in discussions about green technology and potential career pathways across various fields. In the Advanced Placement and Honors Environmental Science courses, as well as the Marine Biology course, teachers emphasize contemporary technologies and associated career paths aligned with each study unit. The integrated learning approach complements field trips to local businesses like *SolaTube* (specializing in daylighting systems), Coastal Roots Farm (a sustainable farm on the United States and Mexico border), and Carlsbad Aquafarm (focused on bivalve aquaculture).
- Upper School students are encouraged to participate in Pacific Ridge's internship program, which includes many local partnerships with biotech and sustainability-focused companies. For example, students have participated in internships at WayZero, a local non-profit focused on increasing community awareness of Zero Waste policies in California. Students were involved in educational outreach and testing of compostable

products. Students have also interned at the Birch Aquarium in La Jolla, increasing visitor awareness of local and global conservation topics while encouraging a sense of stewardship and connection to the natural world.

### *Element IIIC: Civic Knowledge and Skills*

- Through Pacific Ridge's Service-Learning program, students create and implement civic and community engagement projects to integrate ecological concepts through the following:
  - Students research and pilot alternative energy systems for the campus. The group continues working on creating biodiesel for a small generator on campus and has worked with local restaurants to recycle used cooking oil. The group also designed and installed a charging station powered by wind and solar.
  - Students in the *New Ocean Blue* group educate the community at Pacific Ridge and other local elementary schools about the ocean and pollutants such as plastics. The group also runs beach clean-ups and organizes *Coastal Clean-up Day* every year.
  - Students in the *Eco-Friendly* group research and educate the school community on how on-campus systems could be more environmentally friendly. The group educates the community on the new waste sorting system, including green waste collected during lunch. Additionally, the group coordinates annual Climate Strike events, aligning with the global Climate Strike, informing the community about climate change, and advocating for individual actions that can contribute to making a positive impact.
  - Students in the *Sustainability* group go on field trips to local wastewater plants, a waste management transfer station, and the San Diego Botanical Gardens. Students also work on conservation with the Center for Natural Lands Management to restore native habitats and remove invasive plant species in North San Diego County.
  - Seventh and eighth-grade students audit the middle school recycling programs on campus, educating peers on better practices.
- Students at all levels partner with the Carlsbad Parks and Recreation Department to remove invasive species from nearby ecosystems.
- Meaningful outdoor learning experiences for Pacific Ridge students encompass a variety of activities, such as the following:
  - Sixth-grade students travel to the San Bernardino Mountains for one week in June. Their study of environmental sustainability, waste, energy reduction, and land conservation moves from theory to practice as they try to achieve zero-waste meals, measure data for the Park Service, and explore some of CA's natural features and ecosystems through daily hikes.
  - Ninth-grade students travel to the northern Sierra Mountains, specifically Yosemite National Park, in May and June for two weeks. Students complete a four-day backcountry hike and multiple-day hikes, go whitewater rafting, learn leadership and navigation skills, and learn self-sufficiency.
  - Eleventh and twelfth-grade students travel to various locations for two weeks of outdoor learning experiences in May and June. Some available trips include backpacking and hiking in New Zealand, studying the environment in the Bahamas, exploring coral reefs in French Polynesia, studying environmental



science and astronomy in Chile, and backpacking and hiking in Utah and the Grand Canyon.

- The school's Global Travel program offers homestay programs and collaborates with non-profit and community organizations to provide a valuable outdoor learning experience for the students and the communities they visit. The program allows the students to learn about various environmental science concepts, such as forest fires and succession, water quality, water rights, biodiversity protection, and invasive species. Along with scientific exploration, the program also covers the historical context of the visited communities, including sustainable farming and land management. Moreover, discussions also touch upon the economic dynamics of each location and its implications for promoting change and implementing sustainable strategies.
- Pacific Ridge School's Global Travel program facilitates partnerships between students and organizations in various countries. Many of these programs involve collaborations with underfunded schools, where Pacific Ridge students help to teach English classes and construct new structures on-site. Over the years, students have contributed to installing water pumps for communities, building greenhouses, researching ocean ecosystem health, and engaging in other relevant projects. Although these partnerships are not locally based, they are integral to the school's culture.
- Pacific Ridge cultivates many partnerships with community groups to encourage environmentally sustainable practices and personal health and wellness, including:
  - Service-learning groups in the Upper School work with *Surfrider*, *I Love a Clean San Diego*, and *SurfAid* to educate the local community on ocean pollution and ways to change behavior to avoid polluting the ocean and other waterways in San Diego County.
  - The Global Vantage Service-Learning group collaborates with two other schools, one in San Diego and one in Kenya, to produce a quarterly magazine in which they compile stories from community members about topics important to them. Global Vantage's work encourages socio-emotional wellness in the communities the magazine reaches.
  - Two Upper School service-learning groups travel to local schools and Head Start programs once a week. The groups' work encourages socio-emotional wellness in themselves and the other students. Part of the group's work includes teaching the younger children about sustainability concepts such as recycling. One of these groups, *New Ocean Blue*, designs curriculum and presentations before visiting nearby schools to talk with students about sustainability.
  - Students partner with Centro de Enseñanza Técnica y Superior (CETYS), a school in Tijuana, to exchange ideas and create connections across the border. These connections help bridge the perceived differences between the two cultures and increase community health regarding acceptance and friendship.
- In 2014, Pacific Ridge achieved a Silver rating in the *ProtoStars* national benchmarking program for schools' sustainability. The program evaluated the campus's sustainability in environmental education, operational practices, material procurement, economic and environmental sustainability, and community support initiatives.