



## 2015-2016 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 Pre-K-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 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 2015-2016

Public  Charter  Title I  Magnet  Private  Independent  Rural

Name of Principal: **Ms. Babs Freitas**

Official School Name: **Bay Farm School**

Official School Name Mailing Address: **200 Aughinbaugh Way, Alameda, CA 94502**

County: **Alameda** State School Code Number \*: **01 61119 6110779**

Telephone: **510-748-4010** Fax: **510-865-2194**

Web site/URL: <http://bayfarm.alamedausd.ca.schoolloop.com/> E-mail: [bfreitas@alameda.k12.ca.us](mailto:bfreitas@alameda.k12.ca.us)

*\*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: **January 27, 2016**

(Principal's Signature)



Name of Superintendent: **Sean McPhetridge, Ed.D.**

District Name: **Alameda Unified School District**

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

Date: **January 26, 2016**

(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: **California Department of Education**

Name of Nominating Authority: **State Superintendent of Public Instruction Tom Torlakson**

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

Date: **January 28, 2016**

(Nominating Authority's Signature)

**SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS**

Provide 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. Then, include concrete examples for work in every Pillar and Element. Only schools that document progress in every Pillar and Element can be considered for this award.

**SUBMISSION**

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to [ed.green.ribbon.schools@ed.gov](mailto:ed.green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2018

**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.



# *Bay Farm School*

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



Prepared by  
California Department of Education  
School Facilities and Transportation Services Division  
<http://www.cde.ca.gov/ls/fa/sf/greenribbonprog.asp>  
January 2016

## PART II – SUMMARY OF ACHIEVEMENTS

### Bay Farm School, Alameda, Calif.

#### *In pursuit of Zero Waste*

What began as a program to increase recycling and build a school garden has become a school culture. Efforts to build sustainability into educational programming are like threads running through the fabric that is Bay Farm School. The entire school community works to prove that a school can increase in size and population and reduce the size of its carbon footprint. They do this by systematically integrating sustainability and outdoor learning into the curriculum, focusing on health and wellness, reducing waste, and engaging students and parents as part of the solution.

In 2008, Bay Farm was a K-5 school with 450 students diverting 20% of its solid waste by recycling paper, cans, and bottles. Every day after lunch, 250-300 gallons of trash went to the landfill dumpster. The following spring, Bay Farm agreed to be one of five Alameda Unified schools to pilot a program to increase recycling and add composting. As members of the steering committee, Bay Farm teachers helped create a lesson and posters to teach staff and students how to sort trash into three streams: recycling, compost, and landfill. These materials were implemented in the 2009-10 school year to teach students and staff how to sort trash at lunch into new green, blue, and gray bins. Bay Farm's custodian became a champion of the effort and reported that lunch trash was reduced from 8-10 bags to only one each day.

By spring 2010, compost bins were in every classroom, kitchen, and bathroom. A student club, The Tree Musketeers, made monthly announcements about recycling and saving energy. By 2012, the waste diversion rate at Bay Farm had ballooned to 69%, but the school decided their goal should be 90%. Some recycling and organics were still going into the trash! The Green Team set to work reviewing waste diversion procedures in every classroom. They also worked with staff and parents to reduce waste at large school events. Additional compost bins were placed near the playgrounds.

In January 2013, Bay Farm achieved 73% diversion and swapped its 4-cubic-yard dumpster for a 3-cubic-yard model and increased the size and number of recycling and organic waste containers. From fall 2014 to spring 2015, students in the upper grades conducted six different waste audits focused on keeping recyclables out of classroom and playground trash. By spring 2015, these efforts reduced landfill so much that classroom trashcans were replaced with 1-gallon mini waste bins. Today, Bay Farm serves almost 600 K-8 students and maintains a diversion rate of 85%.

The school garden program at Bay Farm was developed to be an outdoor learning center (OLC) from the outset in 2003, but with mostly volunteers running the program, not all students were benefiting from it. The school's Parent Teacher Association (PTA) increased investment in the OLC program in 2008 to provide a full-time garden teacher on staff. With renewed interest and increased capacity, teachers and parents planted more gardens. Now, every K-5 student gets dedicated garden instruction. All students regularly work, learn outdoors, and eat food they grow in the OLC.

Bay Farm has engaged staff, students, and parents in school greening efforts beginning in kindergarten. Teachers and parent volunteers use songs, games, and puppets to teach these youngest learners how to sort their trash and be "Green Guardians." At an early age, students

have ownership for the success of environmental and sustainability programs through service learning. Classroom recycling is a student, not custodian job. All 4th graders serve on teams that monitor lunchtime recycling. Teachers have effectively increased health and wellness through the use of outdoor classrooms, increased physical activity, and nutrition education.

Grades 4-7 developed a series of overnight field trips that emphasize outdoor experiences, sustainability, and student action that benefits the community. These include Coloma (4th grade), Marin Headlands (5th grade), Motherlode Outdoor Discovery Camp (6th grade) and Yosemite (7th grade). The widespread use of public transportation, biking, and walking field trips have all contributed to reduced car use.

PTA has embraced efforts to go green with programs that include Paperless PTA, Zero Waste parties, a Go Green website, and installation of a PTA Go Green committee with a budget. Bay Farm operates on the belief that environmental literacy for all students is the way toward a more sustainable future.

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

### Pillar I: Reduce Environmental Impact and Costs

#### *Element IA: Energy*

- Bay Farm uses the Energy Audit Recommendations created for Alameda Unified by Alameda Municipal Power in 2010. A 2014 Facilities Master Plan and Conservation, Energy and Generation Plan (coming early 2016) have recommendations specific to Bay Farm to help manage and reduce energy use. AUSD has adopted a solar master plan; the Conservation, Efficiency and Generation Plan will identify the best sites for on-site solar installations.
- AUSD has a partnership with the local utility, Alameda Municipal Power (AMP). AMP supports AUSD in energy efficiency and conservation measures. AMP is one of the greenest utilities in the U.S. with 60% renewable energy sources including geothermal, biomass, wind, and small hydroelectric. An additional 15% comes from large hydroelectric sources. This means that nearly 75% of AMP's power is carbon neutral.
- AMP works closely with AUSD on energy efficiency programs and rebates for replacing lighting and equipment. Bay Farm has reduced energy usage by 14% since 2011. Using the U.S. EPA's Pollution Prevention calculator to estimate greenhouse gas emissions reductions, Bay Farm is reducing greenhouse gas emissions by 13.7 metric tons of carbon equivalent each year through energy conservation.
- In 2005, Bay Farm School was awarded ENERGY STAR certification with a score of 80. In summer 2013, Bay Farm was chosen to participate in the district's cool roofs program. The entire school had its roof replaced with cool metal roofing, reducing heating and cooling use by approximately 20% while also saving costs.
- Constructed in 1992, the school was designed to maximize the use of daylighting. Most classrooms and school offices take advantage of large windows and skylights; the use of electric lights is unnecessary or reduced during the school day.
- A 2016 lighting retrofit funded by California's Proposition 39 will replace florescent lights with LED lighting in the school auditorium and around the site.

- An Energy Management System shuts down heating from 5 p.m. – 5 a.m. daily. Portable classrooms use programmable thermostats so heating and air conditioning are off during non-school hours.
- Bay Farm School has approximately 3.75 acres of permeable surface on its 8.0 total acres, thereby reducing the heat island effect by reducing paved playground surface. Students have full access to large grass, tree-lined fields, school gardens, a butterfly habitat and an Outdoor Learning Center (OLC).
- Since 2012, the Green Team has worked with staff and students to inspire behavioral change around energy savings. This student club created switchplate signs school-wide as a reminder to turn off lights. In 2013, 6th grade students conducted a light-use audit of classrooms during recess and presented the data to classrooms to serve as a reminder to turn off the lights. Teachers added “Lights Monitor” to the list of classroom duties. In 2014, PTA purchased Smart Strip power strips for use in every classroom and office to switch off electronic devices when not in use. All staff received training on how to use power saving features on Smart Boards and projectors throughout the school day.

#### *Element IB: Water and Grounds*

- Based on total water usage (tracked through utility bills by month and summarized by year), Bay Farm documented a reduction in total water consumption of 19% in 2014-15 (4,579.60 gallons/person/year). Bay Farm also reduced its use of domestic water by 19% and its use of irrigation water by 72% from the three-year average (2011-14).
- AUSD has contributed to water conservation efforts by installing low-flow devices on faucets.
- At least 90% of the school’s landscaping is water efficient and/or regionally appropriate.
- Turf abandonment is a hands-on learning experience for 6th graders. Annually since 2012, students have mulched approximately 1,200 square feet of school property. Working in partnership with educators from public agency Stop Waste, these student action projects include sheet-mulching designated areas of the school, conducting research, collecting data, and then applying what they have learned by doing educational outreach at home. In February 2016, students will help plan and launch a fourth action project in which areas of school grounds are replaced with mulch, natives, and drought tolerant plants.
- All plants are chosen for drought-tolerance and many are CA natives. They are located in the school’s Butterfly Habitat, Outdoor Learning Center, classroom gardens, kindergarten monarch butterfly garden, xeriscape rock garden, and succulent garden. Natives include achillea, penstemon, salvia, Zauschneria californica and Verbena lilacina (full list on PTA school garden website). Regionally appropriate plants include Buddleia davidii, coreopsis, gaura, helianthus, many succulents, and more than 140 trees.
- In 2010, two 55-gallon rain barrels were purchased by the school garden program with a grant from the City of Alameda. Located behind classrooms adjacent to the Butterfly Habitat, they can collect rainwater from classroom downspouts. The barrels were decorated by students who painted them with colorful butterflies and flowers. The Full Option Science System (FOSS) curriculum developed by the Lawrence Hall of Science encourages teachers to reuse water used during investigations to irrigate plants. School gardens use a drip and hand-irrigation system.
- At least 47% of the school site is permeable, which serves as a bioswale to reduce and filter storm water runoff. The largest school garden intersects paved playground and

paved paths leading to storm drains. Storm water that collects on the playground from downspouts filters through this permeable surface and waters the gardens instead of running directly into storm drains. All paved-playgrounds are surrounded by permeable surfaces, reducing and filtering storm water runoff.

- Teaching about water use is part of garden classes for all grades. Students hand water to better facilitate this process, and allow for easy seasonal changes and rotation of beds. Perennials, which need less water once established, are used; also groundcovers to keep moisture in the soil and plants that will shade the hottest parts of the garden, decreasing water use in the summer. In summer, cover crops are planted in the annual beds or green manure is added to compost in place, which builds the soil and reduces the need for frequent watering.
- Approximately 5% of the school grounds are devoted to ecologically beneficial uses. There are also more than 140 trees on campus. In 2003, the school's Butterfly Habitat was designated as a National Wildlife Federation Schoolyard Habitat Site. In 2013, the school registered an Alameda County Bay Friendly Garden. Students progress through a comprehensive garden program including bug hunts; exploring different types of seeds; drawing; learning about the importance of diversity in plants and animals; bee, ladybug, and spider observations; exploration of the different ways seeds travel; and exploring microclimates. All students grow food in the school gardens.

#### *Element IC: Waste*

- In 2014-15, Bay Farm achieved a waste diversion rate of 76% by volume and 85% by weight.
- The school can compost 100% of food scraps, food soiled, and paper towel waste. Organic waste is collected at lunch and school events in 96-gallon green carts that are picked up weekly by Waste Management. 4th grade Recycling Monitors make sure nonorganic waste does not get in the bins at lunch. Recycling procedures are reviewed at the start of every school year. Kindergarten students even learn a song to help them remember to "Put food and dirty paper in the green!" Compost bins are conveniently located in every classroom, kitchen, collaborative workspace, bathroom, and on all playgrounds. Bins are labeled with signs as guides. Custodians empty green bins daily using two-bin carts to keep waste streams separate. The garden uses plant waste and green manure grown for the compost pile. 4th grade completes a compost project in which each class builds, observes, and maintains a compost pile to be used in the garden. The soil in the garden comes either from city compost programs or local businesses that make their own compost.
- CIWA, Inc. tracks waste disposal and recycling for AUSD. This data is presented to the school board annually around Earth Day. In 2015, Bay Farm School was invited to participate and share best practices for achieving the highest diversion from landfill of all AUSD schools. Classroom recycling in grades 6-8 is tracked by grade 7. Students collect and weigh recycling to track progress of efforts to go paperless in the middle school. Since 2014, Bay Farm also reports waste and recycling data to county agency Stop Waste.
- AUSD's hazardous wastes are handled by a licensed environmental company. All hazardous waste disposals are properly documented by the EPA's hazardous waste manifest system. Hazardous materials are not kept at school with the exception of CFL lighting. Custodians pack nonworking CFL tubes and ballasts in protective packaging designated for hazardous waste pickup and recycling using district procedures for

disposal. California Proposition 39 funds will replace 30 CFL interior/exterior lights with LEDs in 2016, saving energy and reducing hazardous waste.

- Bay Farm increased diversion of solid waste from landfill from 20% in 2008 to 85% in 2015. 5th graders worked with county agency Stop Waste's Ready Set Recycle program to conduct several waste audits in the 2014-15 school year. Families drop off batteries for recycling in the school office.
- All staff and student desktop computers are Dell ENERGY STAR models. Desktop computer stations are being phased out in favor of more energy efficient Chromebooks. Staff shares 3 mobile carts, each containing 35 Chromebooks. In 2014, PTA purchased Smart Strip power strips for use in every classroom and office, which automatically switch off electronic devices when not in use.
- PTA invested in glass dishes, glasses, cutlery, and beverage dispensers to use at functions in place of disposable party-ware. These are stored in the staff kitchen for daily use. In 2010, Go Green used a \$1,000 grant from Altamont EAB to create reusable party-ware kits for every classroom and the garden's cooking program. These kits contain kid-sized dishes, cups, and cutlery in a storage bin to be used for classroom cooking and celebrations. This reusable party-ware replaces over 3,500 paper plates, cups, and plastic forks each year.
- Bay Farm students and staff are always looking for partnerships and programs that could help take the school to the next level of waste reduction. Students bring batteries, cell phones, and ink cartridges from home to recycle them in the school office. Classrooms collect unusable markers and recycle them through Crayola Color Cycle.

#### *Element ID: Alternative Transportation*

- Bay Farm tracks walkers (24%), bicyclers (18%), and carpooling (35%). For the week of November 16-20, 2015, data was collected daily from all 594 students. Teachers were provided with a form to complete, an electronic graph for use on the interactive white board, and a dynamic Excel spreadsheet. Students were able to see the pie chart change as classroom data was added. Numbers were converted to percentages. This data will serve as a baseline to measure progress when data collection is repeated in the spring.
- Bay Farm has a well-publicized no-idling policy that applies to all vehicles (including school buses), and vehicle loading/unloading areas are at least 25 feet from building intakes, doors, and windows. A secure bicycle area and skateboard storage racks are available to encourage bicycling or skating to school.
- A copy of the Safe Routes to School for Walking and Bicycling Map for Bay Farm School is sent home with every student at the beginning of each school year and is available on the PTA website. This map includes bike and pedestrian safety tips for families. Parents are using this map as a guideline for implementation of a Walking School Bus program.
- Alternative transportation goals at Bay Farm include increasing physical activity and reducing the school's carbon footprint. Teachers take advantage of nearby public transportation (e.g., AC Transit, BART, the SF/Alameda ferry, and Amtrak) during the school day and for class trips. In 2014-15, classes walked to a symphony concert, a Bay Trail Nature Walk (partnership with East Bay Regional Parks), the Main Library, a U.S. Coast Guard demonstration, Young People's Concert, a Pen Pal Picnic, and the ferry terminal. Students walked from 0.5 to 7 miles each way on these field trips. Students in kindergarten and 3rd grade organized carpools for field trips, significantly cutting the number of cars used. Every three weeks, 6th graders bike from school to the local library for a literature study program.

- The first Wednesday in October is Walk and Roll to School Day. Parents on this committee set up an information table with extra copies of the map available. Alameda police conducts a bike safety workshop at the beginning of each school year and before 6th grade students begin their rides to the library. Bike racks are located at both entrances to the school.
- Bay Farm's Health, Wellness and Safety Committee administers a Walking School Bus Program. This group meets at "walking bus stops" to walk to school as a group. Parents use a schedule to take turns walking the group to school. Data from the recent school transportation survey will be used as a baseline to measure success of this program.

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

### *Element IIA: Environmental Health*

- Bay Farm uses the district Integrated Pest Management (IPM) plan, which follows strict regulatory mandates on the use of chemicals for pest management. Every prevention and treatment uses the least toxic approach. No pesticides are used for pests or weed control. Routine inspections and recordkeeping are managed by the district. The school Health, Wellness and Safety Committee provides teachers with information to discourage the use of any cleaning or deodorizing products that may contain toxic or asthma-inducing chemicals.
- The school's Alameda County certified Bay Friendly School Garden uses no pesticides. The plant diversity attracts enough beneficial insects to keep common pests in check. Garden staff teaches students to do routine checks of their classroom plots to make sure plants look healthy. Students help remove by hand anything that's causing too much trouble, such as snails or aphids. Sheet mulching is used as a method to control weeds without use of pesticides or herbicides.
- Bay Farm prohibits smoking on all property and in all district vehicles, has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school, uses fuel burning appliances and has taken steps to protect occupants from carbon monoxide (CO), and has identified that there are no wood playgrounds or other structures that contain chromate copper arsenate.
- Bay Farm adheres to the Asbestos Act and has an asbestos management plan in place.
- "No Smoking" signs are posted throughout campus. CFL lighting containing mercury that needs replacing is treated as hazardous waste and custodians use proper disposal methods. No other sources of elemental mercury are in use in the school. School garden beds were constructed using wood that does not contain chromate copper arsenate to eliminate exposure to students. Custodial staff has been trained to on proper storage and labeling, handling chemical inventory, clean-up and disposal and hazard communication.
- Bay Farm classrooms have good acoustics (less than 45 dBA), good daylighting and high-quality electrical light when needed, and good relative humidity control (ASHRAE 30-60%). With 18-foot ceilings, large windows, and skylights, buildings and offices were designed to provide good acoustics, maximize daylighting, and increase airflow. For the mild Bay Area climate, permanent buildings do not have air conditioning. All windows open to vent from the top and generate good airflow. Effective daylighting makes it the norm to turn off most or all electric lights during school hours.
- Bay Farm uses dehumidifiers, fans, and extractors in cases of roof leaks or mold during very wet winters. Remediation work is done by a licensed environmental company.

- All classrooms have views of the school's more than 140 trees and nature. Students are used to coexisting with common ravens, seagulls, wild geese, ducks, and other wild birds that come and go throughout the day. School gardens throughout campus give students opportunities for frequent encounters with butterflies, hummingbirds, and bees.
- During summer break, a thorough inspection is done of each room by district maintenance staff and of the school heating gas system to identify any issues and make sure school is protected from carbon monoxide. Filters are changed in every vent before school begins. Portable classrooms are equipped with HVAC systems and undergo the same annual maintenance and inspection.
- Faculty receives an updated list of Student Health Concerns at the beginning of the school year. Asthmatic students are identified so that teachers can work with parents to understand concerns and asthma triggers. The Health, Wellness and Safety Committee compiled information for email distribution to teachers and families to inform them of cleaning products and air fresheners that can trigger asthma. Staff discontinued the use of plug-in air fresheners in bathrooms and classrooms due to health and asthma concerns.
- Bay Farm was constructed in 1991 and is one of the district's newer facilities. All paint and construction materials used are lead-free and soil testing for lead was part of the facility's pre-construction work.
- Bay Farm receives water from East Bay Municipal Utility District, which filters all water through sand and anthracite or carbon. Each water treatment plant also provides disinfection, fluoridation, and corrosion control.
- All plumbing is lead-free and compliant with California's AB 1953. State law since 2006, this legislation establishes the toughest drinking water plumbing lead content standard in the world.
- All custodial staff is trained on the safe use of chemicals routinely used at school. These safety measures are reviewed before every school year by district maintenance, operations & facilities (MOF) managers. Cleaning products are locked in custodial supply rooms inaccessible to students.
- In 2010, the MOF program coordinator at AUSD collaborated with and received a grant from the California Department of Public Health to build a district-wide green cleaning program. Through the Cleaning for Asthma Safe Schools (CLASS) Pilot Project, AUSD reduced dozens of cleaning chemicals down to a few Green Seal-Certified alternatives: all-purpose cleaner, disinfectant, neutral cleaner, and graffiti wipes; transitioning from disposable cotton mops and rags to nylon microfiber ones and laundering system via mobile washing machines; removing the use of bleach from non-food servicing areas; switching out buckets and mops for automated restroom cleaning machines; and increasing staff training for the new equipment. AUSD collaborated with the California Department of Public Health to support the development of the Work-Related Asthma Prevention Program (WRAPP) publication, Healthy Cleaning & Asthma-Safer Schools: A How-To Guide (October 2014).
- The facility and every room is inspected during summer break to identify any issues with the HVAC system. School staff is reminded not to block heating vents with shelving or boxes. Filters are changed at every vent annually. Staff is instructed by MOF to report any indoor air quality concerns by submitting a work order. Our school Health, Wellness and Safety Committee provided staff and families with information about cleaning products and plug-in air fresheners that may adversely affect indoor air quality. A list of

nontoxic methods to clean and deodorize air in the classroom is distributed to staff each school year.

- Bay Farm implemented a well-promoted No Idling policy on campus. Signs posted curbside read, “No Idle Zone-Young Lungs at Work,” and parents are reminded of the policy in the school e-newsletter. Walking and riding bikes to school is supported. Bay Farm participates in National Walk or Roll Day, and bike racks were installed at two school entrances. Parents implemented a walking school bus program to encourage walking in groups. Faculty actively pursues ways to reduce vehicle use for field trips; whenever possible, students walk, bike, or use public transportation.
- Trees are a major part of the Bay Farm School landscape with more than 140 trees on campus. AUSD’s tree policy states that for any one tree that must be removed due to disease, two are planted in its place.

### *Element IIB: Nutrition and Fitness*

- School lunch includes a Farm-to-Fork program with a fresh fruit and salad bar and as many locally-sourced choices as feasible. A local fruit of the month is featured and 20-25% of produce is organic. Staff is provided fresh fruit at meetings and PTA provides healthy snack buffets for teachers. Instead of cake, PTA serves fresh fruit at large school celebrations. A unit on sugar in foods is taught in grade 5. Personal Health and Wellness Exploration is a middle school elective. Every student regularly tastes and cooks food grown in school gardens.
- Physical activity is a priority. Parents volunteer to teach Zumba and led participation in the Gimme Five Challenge fitness campaign. K-1 does weekly motor fitness and Zumba. Grade 2 students walk or jog every day for 10 minutes. Grade 3 does Running Club daily, 4th and 5th grade start every day with 10 minutes of walking or running (“a daily mile”). Teachers use Go Noodle for movement breaks or when recess is rained out. Grades 6-8 get 400 minutes of P.E. every 10 days.
- Bay Farm has six areas devoted to school gardens on its 8-acre campus. For every 100 square feet of building space, there is approximately 10 square feet of garden space. In 2003, the Butterfly Habitat was built on 0.5-acre by parents and community volunteers with help from more than a dozen local partners who designed, researched, built, and funded the project. It serves as a lab where students observe pollinators in a habitat of mostly California native plants and is accessible to the community. A full-time garden teacher conducts class in the Outdoor Learning Center’s four large vegetable gardens. Each of Bay Farm’s 23 classrooms has its own garden plot to tend. Kindergarten has a monarch butterfly garden. A xeriscape rock garden was created by 3rd graders in 2009. Grades K-3 have garden class bi-weekly, and grades 4-5 receive weekly garden instruction. All students plant seeds, transplant plants, water, weed, work with tools, harvest plants, and eat and cook produce from the garden.
- Grades 1-5 receive 200 minutes of P.E. every 10 days and grades 6-8 get 200 minutes P.E. every week. Nearly 100% of P.E. instruction takes place outdoors. Teachers are required to submit monthly reports verifying the required number of P.E. minutes. Structured physical fitness activities include daily running/walking laps, square dancing, yoga, and Class Game Time using the Sports for Kids program. 6th grade has helped to set the Guinness World Record in Sport Stacking for the last 4 years. The Fitnessgram assessment is used to assess students’ physical fitness. Kindergarten does weekly Motor Fitness, Zumba, and Go Noodle. Bay Farm partners with the Alameda Education Foundation (AEF) to provide afterschool sports and fitness options including karate and

tennis. Middle school girls and boys can participate in afterschool volleyball, basketball, and track and field leagues sponsored by AEF.

- An active school Health, Wellness and Safety Committee plans actions that will improve the health and wellness of students, staff, and the school. AUSD's district wellness policy is integrated with the school's green initiatives. All students have daily access to fresh produce from the lunch salad bar and from school gardens. A frequent sight is kids snacking on apples, lemon sorrel, or broccoli flowers from the garden. Teachers give extra recess minutes instead of sweet treats as rewards. Physical activity has increased with walking and biking field trips. 6th and 7th grades study nutrition as part of a Personal Health and Wellness Exploration elective. School wellness policies and practices extend into aftercare through partnerships with Girls Inc. & ARPD aftercare programs. Students in these programs spend the majority of their time playing outside using the school's playgrounds and the adjoining city park. Bay Farm will participate in the Sun Wise program beginning spring 2016.
- In the Outdoor Learning Center (OLC), students are busy digging with tools, pushing a wheelbarrow, watering, and weeding their garden as part of their weekly garden class. Students are taught tag and other cooperative games through P.E. and the Sports For Kids program that they then play on their own during recess. All students have from 45 to 55 minutes of daily recess in which their play is self-directed and student-led. The large school campus has three playgrounds. These playgrounds are lined with trees, which make popular places to play house or hang out with friends during and after school.
- Staff can take advantage of membership discounts at four different health clubs. Teachers participate with their students in running/walking laps, Zumba, and walking or riding bikes on field trips. Time at staff meetings is given so an occupational therapist can teach mind and body techniques used to release stress and strengthen the core. Bay Farm calls on expertise from the parent community to help increase staff and student wellness. These include sessions with a parent nutritionist on healthy eating and sugar in food as well as training from a physical therapist on the use of proper body alignment when using a computer. The Health, Wellness and Safety Committee is working to develop activities that can be used by staff and students to practice mindfulness and relaxation. Staff meetings include healthy snacks such as fresh fruit and veggies, and staff can order lunch from healthy options through the school lunch program.
- Students learn about safety with a partnership with the local police department. This partnership extends from Kindergarten (with a trip to Safety Town) to 6th grade (with a bike safety workshop). Bay Farm's partnership with local libraries includes walking and biking to get there. After the safety workshop with the APD, 6th graders ride bikes every three weeks to the library for literature study. A partnership with the East Bay Regional Park District in 4th grade includes a docent-led nature walk along the nearby San Francisco Bay Trail. A Bay Farm parent is a certified nutritionist working with 5th grade as part of a nutrition unit. The lessons include study of the chemical makeup of sugar and how it affects the body. Students analyzed the nutritional value of their lunches. They also made gluten balls and analyzed the amounts of sugar in different types of flour.
- Staff uses the district wellness policy and strives to integrate physical activity and nutrition education in their curriculum. PTA funds a full-time garden teacher so all students taste and cook food grown in school gardens. Teachers talk with parents at Parent Info Night in August about the importance of providing healthy snacks and

lunches. Parents are asked to consider the health of the planet as well and pack food in reusable containers. 5th grade does a unit on sugar, which includes a nutritional analysis of their lunch. 75% of 6th and 7th graders choose a Personal Health and Wellness Exploration elective. Bay Farm has a nut-free/dairy-free lunch table and a No Nut policy at celebrations/cooking projects to support students with food allergies. Staff meeting time includes discussion on ways to incorporate more movement breaks in the day. Teachers use resources such as Go Noodle for movement breaks and rainy day recess and Mind & Body Technique to lead exercise to relax and build core strength.

- The Alameda Fire Department provides support in the development and maintenance of the school's disaster readiness program. PTA funds annual training for staff in CPR and first aid. 5th grade partners with Proctor & Gamble to provide materials for a unit on puberty.
- A staff health aide provides first aid and assistance to ailing students. She provides a list of health concerns for teachers so they are informed about their students with asthma, food allergies, diabetes, or other health needs. She coordinates with the district nurse to support students with health concerns. The district nurse provides annual training on use of an epi-pen for allergenic students. A part-time counselor at the middle school level provides 1:1 and small group services. A part-time psychology intern runs small groups working on social skills.
- Bay Farm uses the Caring School Communities curriculum to work on social development and teamwork with class meetings and cross-grade-level peer activities. Each K-2 class partners with a grade 3-5 classroom for cross-grade-level activities. The transition to 6th grade begins with an overnight at Mother Lode. This camping and ropes course is all about team building.
- Middle school starts the year with anti-bullying lessons taught by the school counselor. This counselor also provides 1:1 and small group support for students, including a monthly lunch group for students from military families. Because Coast Guard Island adjoins the city of Alameda, most classes at Bay Farm usually have at least one Coast Guard family.
- Bay Farm created its own social development program that combines the Life Skills program with the "Dazzling Dolphin" student recognition program. Students "caught doing good" or using one of the Life Skills receive a certificate. At the end of the month, recipients are recognized at a school rally.

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

#### *Element IIIA: Interdisciplinary Learning*

- Staff has worked to develop a set of policies to promote environmental education and sustainability at every grade level. These policies have been developed to incorporate student service learning and hands-on action projects. As much as possible, Bay Farm wants its students to be empowered by these policies and hold each other accountable for program success. All classrooms are responsible for carrying out their own recycling, done by students rather than custodians. Teams of 3rd graders create green businesses for a school-wide event in June called Marketplace. All 4th graders are responsible for monitoring recycling every day during lunch. Both 5th and 6th grades complete environmental action projects that benefit the school or larger community. Grades 7 and 8 work in teams to monitor recycling, reduce waste, and control litter at lunch, school dances, and large school events.

- The green schoolyard program is guided by an Outdoor Learning Center Mission Statement, drafted in 2002 and revised in 2015. The mission of the Bay Farm Outdoor Learning Center (OLC) is to create an outdoor learning classroom that integrates with existing educational curriculum. Although the OLC continues to grow, and has become an integral part of school landscape and culture, the goals outlined in this document hold true.
- Faculty has embraced the idea of integrating environmental and sustainability concepts across the curriculum, including Music and Performing Arts. The school music teacher includes songs that teach conservation and recycling in every student's repertoire. She directs an annual musical with the environment as the theme. In 2015, 5th grade performed "The Environmental Show." In spring 2016, 3rd grade will perform, "My Planet, Our Planet." Performed at school assemblies and for parents, these shows include songs about conservation of resources, composting, water, and air pollution. The FOSS Life Science curriculum integrates environmental and sustainability concepts across the curriculum in multiple disciplines. Beginning in kindergarten and through grade 7, students move through a sequential study of water, trees, plants, animals, insects, and how they are all connected as part of our ecosystem. At every grade level, students are collecting and analyzing data, writing about investigations, working outdoors, and reading at school and at home about these concepts.
- The garden teacher is committed to integrating her program with the curriculum. For example, 1st graders grow potatoes, California poppies and carrots in class as part of their study of plants, which will then be transplanted into school gardens during garden class. In 2nd grade, many of the investigations from the Insects & Plants unit are taught during garden class. An example of how environmental and sustainability learning is assessed is through the 5th grade waste audit action project. Each 5th grader must create a book for his or her 2nd grade buddy explaining the connection between recycling and composting to the reduction of greenhouse gases.
- Professional development opportunities for staff include training by Stop Waste to facilitate school waste audits, sending custodial staff to training at the municipal recycling facility, and staff PD on recycling procedures led by the faculty Green Team lead.
- The middle school BEAT Club (Bay Farm Environmental Action Team) accomplishments include: lunchtime education table on Earth Day so students could learn how plastic harms wildlife in the ocean; planting a school succulent garden; sponsoring a workshop/coastal cleanup with International Pellet Watch. Six students from BEAT represented Bay Farm at the Leadership Environmental Action Forum in May 2015. Students spent the weekend networking with high/middle school Bay Area students. More than half of school field trips emphasize sustainability, conservation, and service. BEAT has a May 2016 trip scheduled to the Martin Luther King, Jr. Shoreline. It will include canoeing, shoreline cleanup, and data collection on materials polluting this waterway.
- Every 4th grader tours the Davis Street Transfer Station recycling, compost, and landfill facilities. 5th grade will complete a watershed service project this year, beginning in the Oakland Hills with an urban creek restoration observing human impact in the watershed. Next is a three-day outdoor education program in the Marin Headlands, where students study human impact at the other end of the system — the ocean. They wrap up at Crown Beach on the San Francisco Bay to study the impact of pollution on wildlife.
- In October, 7th graders spend two days in Yosemite. This year, students worked along the Merced River making pictures of the glaciation periods using rocks, pebbles, and

leaves. They learned about the work within Yosemite to sustain the environment and control litter.

- Bay Farm students go beyond the school's Outdoor Learning Center to experience the environment all around us. Classes walk three blocks to Shoreline Park on the San Leandro Bay to observe a wide variety of birds. 7th grade science students use a biological key to identify different species of trees at the city park next to the school. This year's middle school students will take a walking trip to nearby headquarters of VF Outdoor to tour this net-zero energy campus.

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

- At a school working to implement 21st century learning, Bay Farm teachers are effectively integrating STEM and Environmental Education. Science includes kindergarten students investigating the life cycle, migration, and natural habitat of the endangered monarch butterfly in a garden of their own design.
- Second graders investigate school grounds for evidence of how rocks and earth materials are used, taking pictures with iPads along the way. They create short presentations with the Educreations app explaining how earth materials are used.
- As a way of teaching 3rd graders about landforms and their natural resources, they learn about the Hawaiian system of land management known as ahupua'a, which evolved to protect the upland water resources that sustain human life. Students build a topographical model that must include a typical ahupua'a, which extends from mountains to the sea.
- Third graders put on a large school event called Marketplace. They form small business teams that will then sell a product to more than 300 student customers at the event. One key grading component depends on how "green" their business is. Students learn about green business practices during a presentation from a guest speaker from the business community. Each team creates a poster to display at the event detailing their green business practices and efforts to achieve zero waste. They reduce waste by eliminating plastic packaging in the production and sale of their products. Each team signs up for a shift to monitor the waste sorting station throughout the event. Since the green business requirement was added to Marketplace, it has become a nearly zero waste event.
- 4th grade includes an annual visit to the local transfer station to learn first-hand how materials collected through municipal recycling/trash programs are managed. This workshop at the Davis St Education Center provides an opportunity to understand the path of compostables, recyclables, and garbage from curbside to remanufacture or disposal.
- Since 2011, 5th graders have conducted annual school waste audits. These student action projects cover multiple Common Core State Standards for science and math. Each audit requires students to weigh trash using gram scales—students found their classrooms produce so little trash that they must weigh it in grams rather than pounds! They convert those measurements to show volume (cubic inches) and percentages of recyclables that ended up in that classroom's trash. Finally, they take the data back to their assigned classroom and give a report on waste reduction and increased recycling.
- Seventh graders participate in a digital landfill project called Litterati. This combines a shoreline cleanup of San Leandro Bay with students using phone/tablet cameras to categorize and classify litter with pictures posted on <http://www.litterati.org/>.
- For the last two years, AAUW California sent a 7th grade student recommended by her teacher to Tech Trek Math & Science Camp on scholarship.

- In 2015, a parent who works for North Face visited 7th grade to present a career pathway to their sustainable business as part of VF Outdoor Corp. Students learned about the reuse of plastics to create fleece wear, clothing and boots.
- This year, 8th grade will walk to VF Outdoor HQ to learn about its net-zero waste energy facility and business model.
- Since 2014, Bay Farm has sent a team of six middle school students to the Leadership Environmental Action Forum (LEAF), where they participate in workshops with nonprofits working on issues of food waste, providing clean water in third world countries, and the protection of rainforests and oceans.

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

- Many students in grades 4-8 work at school community events to monitor recycling stations and educate the public about Bay Farm's three-stream waste sorting systems. The annual family picnic, Evening on the Green, draws over 300 community members. During this event, students monitor the recycling station and answering questions about waste sorting. The school's goal is to make this event zero-waste and educate the public. Students managed a table with county agency Stop Waste where families who pledge to compost food scraps at home receive a free kitchen compost pail. Student Boy Scouts handed out Hawaiian leis to families who brought a picnic with reusable dinnerware and containers, and did litter patrol.
- Grade 5-8 students have volunteered for the last three years at the City of Alameda Earth Day Festival. They ran a booth where families could play a game to test their recycling skills.
- Bay Farm's efforts to reduce waste through service learning have made the school a model for the city and the county. Students have taken leadership roles in presenting the school's waste diversion program at many events. In 2010, three 5th graders presented the school recycling program at the California Resource Recovery Association conference in Sacramento. In 2011, 5th graders presented at the Alameda Green Schools Summit and staffed a table at the Grow & Eat Local Resource Fair on the recycling and school garden programs. In 2012, 1st graders starred in a video on energy efficiency produced by Alameda Municipal Power. This video is on the AMP website and electronic kiosk in the Alameda Library. In April 2015, 4th and 5th grade students gave a presentation to the AUSD board of education on practices that helped Bay Farm achieve the highest rate of diversion from landfill of all AUSD schools at 85%. All of these student projects, achievements, and best practices are available for use by any other school or school district on a website maintained by the school and PTA. <http://gogreen.bayfarmschoolpta.org/> and <http://bit.ly/1QxtiSW>
- Every student K-5 receives instruction in the school garden from a full-time garden educator. Garden classes are biweekly for grades K-2 and weekly for Grades 4-5. Kindergarten goes on bug hunts, makes mud pies to learn about water and soil, and sorts different types of seeds.
- First and 2nd grades take advantage of East Bay Regional Park programs. 1st grade goes to the redwood forest in the Oakland Hills. Students rotate through forest-themed activities including a nature walk, forest food web, tree and climate study. 2nd grade goes to Ardenwood Historic Farm for hands-on learning about farm life in the 1850s.
- Third graders build a yearly harvest calendar from their own observations and explore microclimates by planting radishes in different parts of the garden and collecting data on the corresponding differences in their growth habits.

- Grade 4-8 students fundraise and use PTA and grant money to go on different overnight outdoor experiences: 4th graders spend three days at Outdoor Discovery School in Coloma, where they experience the California Gold Rush using lessons of the past to awaken interest and sense of responsibility for the environment. 5th grade attends a three-day outdoor education program at the foot of the Golden Gate Bridge through the Nature Bridge program. Students hike the headlands, tour Pt. Bonita Lighthouse, and conduct a study of human impact on the ocean. 6th grade begins with a trip to Mother Lode Outdoor Education Camp for two days in Lotus, CA. Students complete ropes courses with a goal of personal development and team building. Last year, 7th grade spent two days at the youth hostel at Montara Lighthouse. This year, they traveled to Yosemite for two days of hiking and learning about efforts to protect the environment in this national park. Most 8th graders attended a spring break trip to Washington, D.C. and New York in 2015, which included many outdoor experiences.
- The school plans to participate in Living Schoolyard Month in May 2016, in collaboration with the neighboring middle school, Lincoln.
- Sixth graders have completed outdoor student action projects each of the last three years. These project sessions begin with an introduction to Bay-friendly concepts and practices by becoming "Bay-Friendly Investigators." Students conduct an assessment and scientific investigation of how their school could be. Analyzing their data, students develop and implement a Bay Friendly action project. Actions include creating outreach materials to communicate their findings and solutions for watershed conservation to their school, households, and community. After completion of the sheet mulching project in March 2015 (described in Pillar I), students led a tour for district maintenance staff and explained methods used. In February 2016, the project will be expanded to begin replacement of the front school lawn. Seventh and 8th graders will be involved, along with members of the community who want to learn about sheet mulching. An added component will be to have students work with a parent who is a landscape designer to help plan and launch this three-year project to replace the front lawn with sheet mulching, natives and drought-tolerant plants.
- An example of how Bay Farm's outdoor learning program engages and develops civics skills occurred in summer 2015 when seven former students, now in high school, gave the Butterfly Habitat a much-needed restoration. This project was completed over the course of several months and helped them achieve their Girl Scout Gold Award.
- Because of the school community's willingness to embrace initiatives that help reduce waste, conserve resources, engage students through service, and encourage outdoor learning, Bay Farm has become a model school for AUSD and Alameda County. Bay Farm is on the list of county agency Stop Waste's Preferred Partner Schools and has piloted several programs that are now being used at many Bay Area schools. Bay Farm works actively to share best practices, confident they can be replicated at any school.
- Bay Farm's faculty Go Green coordinator volunteers to act as liaison facilitating communication among schools, district staff, and community stakeholders. In 2012, Bay Farm hosted a Green Summit, drawing teacher and parent Go Green coordinators from nearly every AUSD school. This workshop included presentations on free resources available to elementary and secondary schools that teach and support environmental education and sustainability. Bay Farm frequently gives tours to principals and green teams from other schools and districts who want to learn from this model program.
- The school is always eager to pilot green initiatives which can then be rolled out to the entire district. For example, Bay Farm asked Food & Nutrition Services to help reduce plastic trash in the school lunch program. They agreed to pilot a program at the school,

replacing utensil packets with unwrapped utensils, adding napkin dispensers, eliminating plastic straws, and putting condiments in squeeze bottles. This successful initiative is now in place at all AUSD schools.

- Bay Farm has a significant number of U.S. Coast Guard families. All students have benefited from this partnership and the opportunity to better understand this part of the community. The school hosts an annual Coast Guard Day on campus. In October 2015, this included demonstrations of a helicopter water rescue, close-up experiences with the helicopter and boats parked on the playground, and a K9 dog team demonstration.



Clockwise from bottom: Fourth grade Recycling Monitors are on the job every day, educating students and monitoring lunchtime waste stations; Fifth graders conduct a school-wide waste audit as part of a student action project; Classroom waste containers were swapped for one-gallon mini-bins; Sixth graders participate in a sheet mulching action project; Fourth graders at work during weekly garden class.



From top: Second graders search for evidence of butterflies in the Outdoor Learning Center butterfly garden; Students cook from the garden with a full-time garden teacher in the OLC program; First graders have fun in an outdoor science lesson using one of more than 140 trees on campus.

