



## District Sustainability Award Nominee Presentation Form

### CERTIFICATIONS

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#### District's Certifications

The signatures of the district superintendent on the next page certify that each of the statements below concerning the district's eligibility and compliance with the following requirements is true and correct to the best of the superintendent's knowledge.

1. The district has been evaluated and selected from among districts 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.
2. The district is providing 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.
3. OCR has not issued a violation letter of findings to the school district concluding that the nominated school district 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.
4. The U.S. Department of Justice does not have a pending suit alleging that the school district has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
5. 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 school district in question; or if there are such findings, the state or school district has corrected, or agreed to correct, the findings.
6. The district 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 District Sustainability Award 2019-2021

Name of Superintendent: Mr. Alan Peterson  
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

District Name: Merced Union High School District  
(As it should appear on an award)

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

\_\_\_\_\_  
(Superintendent's Signature)

Date: January 19, 2022



## Nominating Authority's Certifications

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

1. The district 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 education.
2. The district 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 Tony Thurmond  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

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

A handwritten signature in blue ink that reads "Tony Thurmond".

Date: February 15, 2022

(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: December 31, 2023

### 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.



# *Merced Union High School District*

California Disadvantaged School District 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](#)  
February 2022

## **PART II – SUMMARY OF ACHIEVEMENTS**

### **Merced Union High School District, Merced, Calif.**

#### *District CTE Program Sets the Stage for Sustainable Career Readiness*

Merced Union High School District (MUHSD) is at the center of an agriculture-based economic community in California's central valley. The district comprises six comprehensive high schools and two alternative education sites. Students in the district face multifaceted environmental issues. Unfortunately, all of the district's campuses are at the lower level of the valley, where the air quality is some of the worst in the nation. In addition, students face toxic chemicals in the drinking water, hazardous air quality levels due to forest fires, and chemical exposure from pesticide usage in agricultural fields near their homes. Despite all of the negative factors students face, they are enduring and taking a leadership role to champion environmental justice issues.

MUHSD has an Energy Conservation Plan focused on reducing energy costs, developing a greener footprint, and promoting energy education and sustainability district-wide. The district's reduction of energy costs began in the fall of 2018 when students at each school participated in a district-wide Energy Conservation Competition. Students presented posters with tips to save energy and a "Know Before You Go" checklist of information and suggested actions for audience members. In addition, an accompanying video portion of the competition called for students to create an educational energy conservation message for students and staff to follow. As a result of the information presented at the competition, the district's food services, custodial staff, and district office personnel used the information to make informed conservation decisions.

In 2016, MUHSD's Career Technical Education (CTE) Green Technology and Energy Conservation (GTEC) students collaborated with the California Conservation Corps to perform energy audits on all district campuses. Their goal was to estimate solar savings and renewable energy's economic and environmental advantages. Students used data from energy audits to advocate for the school board to add on-site solar to all seven campuses. With the information presented by the students, the district decided to install parking area solar panels for each school under a power purchase agreement (PPA) with no upfront cost to the district. The new solar arrays are estimated to save the district over \$4.5 million during the 28-year contract.

In 2018, six MUHSD school campuses competed in the state-wide Energize Schools Energy Challenge. Five of the top ten state finishers were from MUHSD, with energy use reductions between five and fourteen percent at each site. In addition, one of the district schools, Yosemite Continuation High School, had a four-year consecutive streak of first-place finishes before that year's competition.

MUHSD has shade trees and smaller plants for ground cover around school sites to help reduce the heat island effect and improve water conservation. The district used a tree donation to plant Red Maple and Valley Oak near blacktop areas to reduce building energy use, air pollution, exposure to ultraviolet rays, stormwater runoff, and pavement

maintenance. In addition, newly installed solar arrays and white single-membrane roofs on new buildings also reduce the heat island effect and lower energy costs.

More than half of the MUHSD school sites have a composting center. Students and staff members add food waste and collected campus grass clippings to composting bins daily. Non-acidic fruits, vegetables, bread, and foliage are used as feeders for worm farms. Schools use worm castings donated from a local dairy in their greenhouses, raised gardens, and plants around the campus. In addition, worm compost tea is diluted and fed to trees on campus.

Every MUHSD school has a campus-wide recycling group that picks up aluminum cans, plastic bottles, cardboard, and paper. On average, 500 pounds of cans and bottles are recycled per site each year. In addition, work experience participants from the Kingsview Work Experience Center collect and sort all cardboard recycling bins at least once a week. As a result, the district recycled four and a half tons of cardboard in the 2020–21 school year.

MUHSD implements Integrated Pest Management (IPM) by focusing on long-term prevention, suppression, and district-wide education on pest management. For example, District Maintenance staff engage in prevention strategies that make the areas around school campuses less inviting to pests using sanitation, mechanical, and physical controls. In addition, the district's Manager of Risk Management provides an IPM training program to all staff on school sites on daily behaviors that will deter pests.

Asthma is the most common cause of absenteeism in the Central Valley, which can be affected by indoor air quality and space humidity. Therefore, MUHSD staff work extremely hard to keep buildings clean, dust-free, and humidity-controlled. To further avoid asthma triggers, custodial staff use low-fragrance cleaning supplies, and yard work such as mowing and blowing is done early in the morning before students arrive or late in the afternoon after students have gone home. In addition, all campus vacuums were converted to High-Efficiency Particulate Air (HEPA) filters to further reduce particulate matter from becoming airborne.

Prior to COVID-19, school gardens provided cafeterias with fresh fruits and vegetables and fresh eggs raised by Future Farmers of America students. However, due to county health department regulations during the pandemic, cafeterias could not use the food from the gardens, so the district donated approximately 800 pounds of harvested produce to rescue missions and food banks to help those in need. The district also has a partnership with UC Merced to reduce food waste. When extra food is nearing expiration, district staff donate it to UC Merced's Food Pantry for immediate delivery to those in need.

MUHSD has incorporated the Nurtured Heart Approach (NHA) throughout all sites. The district-wide training promotes a philosophy for creating healthy relationships with the people in your life. It is successfully helping families, classrooms, foster care, health care professionals, social workers, and staff seeking early intervention strategies. In addition, NHA assists students with adverse childhood experiences that cause

significant detrimental issues for cognitive functioning and educational achievement. The NHA Coordinator works with each campus to help those working with students suffering from issues such as anxiety and depression.

MUHSD's vision is that every student will graduate with a diploma in one hand and a CTE certification of proficiency in the other. The district plans to achieve these goals by requiring all students to fulfill a CTE graduation requirement of at least two CTE courses, one of which must be a capstone course emphasizing occupation-relevant experiences to prepare students for entry into a career. Seven of the fourteen course pathways are sustainability or ecologically-based. Those pathways include Agriculture and Natural Resources, Building Construction, Energy, Environment and Utilities, Engineering and Architecture, Health Science and Medical Tech, and Transportation. The district is confident that teaching students sustainability and how green technologies shape the workforce in their CTE courses will prepare them for the twenty-first-century job market. For example, in partnership with GRID Alternatives, the GTEC course constructs solar systems on residential homes at least four times a year. The program provides economically-distressed residents with a free solar system that produces approximately 50-60% of their needs.

Students look to be stewards of the environment with advocacy, research, and solution proposals. For example, in 2019, approximately 15 students from Yosemite High School visited U.S. Senator Diane Feinstein's office to advocate for proper forest care, green energy, and water conservation through forest thinning and dead tree removal. In addition, students have visited the state capitol to advocate for green legislation on water storage development, central valley air quality, renewable energy credits, solar energy, and increasing the state mandate to 100% renewable energy.

The district encourages collaboration between departments, campuses, and after-school programs to promote civic engagement and environmental sustainability. For example, district personnel from multiple departments are collaborating on the *Green That School* project supporting the development of a school in Africa, Kenya's Daraja Academy. The team is using the U. S. Department of Education Green Ribbon Schools application as a template to guide their work in creating a sustainable campus at the school. The goal is to make the campus environmentally sustainable, encourage STEM innovations, and find greener technologies.

## **PART III – DOCUMENTATION OF STATE EVALUATION OF DISTRICT NOMINEE**

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

#### *Element IA: Energy*

- MUHSD has an Energy Conservation Plan focused on reducing energy costs, developing a greener footprint, and promoting energy education and sustainability district-wide. The district's reduction of energy costs began in the fall of 2018 when students at each school participated in a district-wide Energy

Conservation Competition. Students presented posters with tips to save energy and a "Know Before You Go" checklist of information and suggested actions for audience members. In addition, an accompanying video portion of the competition called for staff and students to create an educational energy conservation message for students and staff to follow. As a result of the information presented at the competition, the district's food services, custodial staff, and district office personnel used the information to make informed conservation decisions.

- In 2016, MUHSD's Career Technical Education (CTE) Green Technology and Energy Conservation (GTEC) students collaborated with the California Conservation Corps to perform energy audits on all district campuses. Their goal was to estimate solar savings and renewable energy's economic and environmental advantages. Students used data from energy audits to advocate for the school board to put solar in at all seven campuses. With the information presented by the students, the district decided to install parking area solar panels for each school under a power purchase agreement (PPA) with no upfront cost to the district. The new solar arrays are estimated to save the district over \$4.5 million during the 28-year contract.
- The on-site solar systems will generate 90% of the district's energy needs. The project is expecting to generate 11,789,340 kWh in its first year. The EPA's Greenhouse Gas Equivalencies Calculator computes the savings equal to 1,817 passenger vehicles driven for one year, 940,126 gallons of gas consumed, electricity for 1,518 homes for one year, or carbon sequestered by 10,236 acres of forests in one year.
- In 2018, six MUHSD school campuses competed in the state-wide Energize Schools Energy Challenge. Five of the top ten state finishers were from MUHSD, with energy use reductions between five and fourteen percent at each site. Yosemite Continuation High School had a four-year consecutive streak of first-place finishes before that year's competition.
- The district's participation in the state-wide Energize Schools Energy Challenge helped them document a 9% reduction in non-transportation energy use for the 2018–19 school year. MUHSD did not use 2020–21 school year data because campuses were closed.
- Proposition 39 (California Clean Energy Jobs Act) provided \$2.4 million in state funding to implement energy savings measures. Following a baseline study, exterior and interior lighting was the best return for energy savings. As a result, the district completed all upgrades at the end of the 2017–18 school year. In addition, the district upgraded HVAC and windows with a combined 25% projected energy reduction in lighting, heating, and air-conditioning.
- MUHSD has shade trees and smaller plants for ground cover around school sites to help reduce the heat island effect and improve water conservation. The district used a tree donation from the non-profit organization, Tree Partners, to plant Red Maple and Valley Oak near blacktop areas to reduce building energy use, air pollution, exposure to ultraviolet rays, stormwater runoff, and pavement maintenance.

- Newly installed solar arrays on each campus contribute to an approximate 15% reduction of blacktop temperatures. The parking structure panels absorb 1.8 kWh per square meter per day, far less than the 5.4 kWh absorbed by asphalt, changing the amount of infrared radiation that makes it to the ground. Essentially, the solar panels absorb about 30% of the sun's heat energy, re-emit half out toward the sky and the rest toward the roof. The above information comes from a UC San Diego, Jacobs School of Engineering study.
- The two newest campuses and two newly-constructed gyms within the district have white single-membrane roofs to reduce the heat island effect and energy costs.

### *Element IB: Water and Grounds*

- Districtwide, MUHSD schools reduced their water consumption by 3% indoors and 3.5% outdoors in just one year (2017–18 to 2018–19).
- With devastating droughts hitting agriculture around the district, Future Farmers of America (FFA) Clubs and green teams around the district collaborate to create programs and advertise water conservation. Each year, these groups place posters around campuses asking for cooperation with water use conservation. A "Go Slow with the H<sub>2</sub>O" slogan has been developed by students to brand the movement in saving water. In addition, students have t-shirts with the slogan to aid in the campaign's promotion.
- The district collaborated with Tree Partners USA to remove trees and plants for climate-appropriate planting. Designing plants with similar watering needs into specific hydra zones helped reduce water use and protect plants from water issues. As a result, about 75% of the zones around the district are native or regionally appropriate plants that only require average rainfall and are adapted to local soils and climate.
- MUHSD schools take the following actions to reduce water use in response to persistent drought conditions:
  - Plant drought-resistant plants and use ground cover.
  - Replace any tree taken out due to disease or complications with two indigenous trees. Oak trees are often selected because they use much less water than the replaced trees.
  - Use mulch to insulate the topsoil, protecting it from freezing winters and conserving water in the hot summers. Mulch is also added for weed prevention and cuts down the need for herbicides or cultivation, which hurt surrounding plant roots and increase their need for water.
  - Collect water in rain barrels for use in gardens and the greenhouse.
  - Strengthen root systems with increased fertilization to increase the water-holding capacity in soils.
  - Install water-efficient fixtures to conserve water when replacing old units.
- Atwater High School and Yosemite High School have garden rain barrels to supply water for raised gardens and greenhouses. Livingston High School has



ten raised garden beds that help retain water and stop runoff. Buhach Colony High School added landscaping that helps absorb water and beautify the campus.

### *Element IC: Waste*

- MUHSD documents a diversion rate of 15% from recycling and composting.
- Half of the district's school sites have a composting center. Students and staff members add food waste and collected campus grass clippings to composting bins daily. Non-acidic fruits, vegetables, bread, and foliage are used as feeders for the worm farm. Schools use worm castings in their greenhouses, raised gardens, and plants around the campus. Worm compost tea is diluted and fed to trees on campus. Non-colored or waxed paper is shredded and also provided to the worms.
- Every school in MUHSD has a campus-wide recycling program. Groups of students and staff collect aluminum cans, plastic bottles, cardboard, and paper. On average, 500 pounds of cans and bottles are recycled per site each year. In addition, work experience participants from the Kingsview Work Experience Center collect and sort all cardboard recycling bins at least once a week. As a result, the district recycled four and a half tons of cardboard in the 2020–21 school year.
- The district conducts a yearly inventory on every campus to check for district chemical compliance. MUHSD policy requires the disposal of waste by recycling, reclamation, or chemical deactivation. The hazardous waste streams at the schools primarily involve automotive waste (e.g., used oil, antifreeze, and oil filters) generated by the student auto shops and the district's Transportation Department; and paint waste generated by the Maintenance and Operations Department. The remainder of the district's hazardous waste streams are transported to disposal facilities by a licensed hazardous waste disposal contractor. In addition, the district stores flammables in fire-proof cabinets and segregates corrosive chemicals in chemistry labs from incompatible chemicals.
- In 2019, Yosemite High School students competed in the U.S. Department of Agriculture's Ace the Waste competition that called on students to develop creative solutions to reduce food loss and waste in the country. Students received honors for their Ace the Waste project, "School Trash and Waste Wars". The project developed a themed waste and recycling system named STAR (School Trash and Recycling) Wars, which marked trash bins with "Dark Side" characters and recycling bins with "Light Side" characters. In addition, students created and posted informational posters to promote diversion strategies around the campus.
- In 2020, district students competed in the Energize Schools Waste Competition. The students earned first place in the state. Unfortunately, students could not submit their "Bean There Brewed That Coffee Ground Rescue" project due to the pandemic. However, since the project began, over five tons of coffee grounds

have been rescued from the landfills and added to gardens, flower beds, and lawns to act as a fertilizer and help soil pH balance.

*Element ID: Alternative Transportation*

- In a 2021 district-wide alternative mode of transportation survey, 60.6% of student respondents reported carpooling, 14.5% ride public transit, 12.8% ride the school bus, 9.8% walk, and 2.3% roll (i.e., bicycle, scooter, or skateboard) to get to school.
- MUHSD personnel and the City of Merced collaborate to make each day's journey to and from school as safe as possible. For example, the City of Merced recently applied for and received Federal Safe Routes to School Program funding. With the funding, the city installed crosswalks, safety lighting, flashing beacons, and curb ramps. In addition, the city placed a crosswalk light in front of Yosemite High School for the safer crossing of one of the most heavily-used streets in town.
- MUHSD's Transportation Director is involved with a cooperative city-wide plan to reduce environmental impact and provide green alternatives to students as they travel to and from school. These measures include safer bike and walking paths; and recommendations for future development that encourage a local community consolidation of housing, schools, and businesses.
- The San Joaquin Valley Air Pollution Control District (SJVAPCD) collaborates with the district Sustainability Teacher on Special Assignment to place no-idling signs on each campus and update schools on new federal and state regulations. The SJVAPCD provides signs in English and Spanish for all schools in MUHSD.

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

*Element IIA: Environmental Health*

- MUHSD implements Integrated Pest Management (IPM) by focusing on long-term prevention and suppression of pests. Their strategies include:
  - Accurate pest identification by frequent monitoring for pest presence.
  - Use of traps and vacuums to supplement pesticides.
  - Making the areas around school campuses less inviting to pests using sanitation, mechanical, and physical controls.
  - Filling cracks in floors, walls, and pavements reduce access for problems.
  - MUHSD custodial staff report all signs of pest activity to the IPM Coordinator.
  - The district contacts its licensed pest control business as needed.
- Every year, MUHSD employees who apply pesticides receive pesticide-specific safety training and school IPM training approved by the California Department of Pesticide Regulation. In addition, the district provides mandatory district-wide training for all employees on daily behaviors they can engage in to deter pest issues.

- The district has a chemical management program that includes:
  - a chemical purchasing policy to only purchase low- or no-volatile organic compounds (VOC) products and less-toxic art supplies
  - storage and labeling methods
  - training and handling guidelines
  - chemical inventory procedures
  - hazard communication (clean-up and disposal)
  - gathering information on the costs and effectiveness of cleaning supplies with vendors from the California Green Schools Summit that sell green chemicals.
- MUHSD removed all thermostats containing mercury. In addition, rooms with gas furnaces have sensors installed to stop exposure to carbon monoxide.
- The district has an asbestos management plan following the Asbestos Act and has had exposed areas cleaned by certified professionals.
- MUHSD utilizes an Energy Management System (EMS) in permanent classrooms to control the heating and cooling of permanent buildings. Each space has a sensor that provides constant feedback to the air conditioning and heating units and the EMS systems. All EMS components connect to a central computer server via the district network. District HVAC technicians monitor and provide adjustments for all school sites from the Maintenance and Operations office.
- Asthma is the most common cause of absenteeism in the Central Valley, which can be affected by indoor air quality and space humidity. Therefore, MUHSD staff work extremely hard to keep buildings clean, dust-free, and humidity-controlled. In addition, all classrooms in the district have relative humidity control (ASHRAE 30 - 60%). To further avoid asthma triggers, custodial staff use low-fragrance cleaning supplies, and yard work such as mowing and blowing is done early in the morning before students arrive or late in the afternoon after students have gone home. In addition, all campus vacuums were converted to High-Efficiency Particulate Air (HEPA) filters to further reduce particulate matter from becoming airborne.
- Three MUHSD schools participate in the San Joaquin Valley Air Pollution Control District flags and text messaging application to update their communities on air quality. In addition, the district sends out text alerts to all district families when air quality is at unhealthy levels.
- The district confidentially informs staff members about which students have asthma and how to respond to any student having an attack. The report also gives information to staff members about early warning signs and what first aid actions to take.
- Inspections on all HVAC units ensure quality control. Filters are changed every December and June. Both district and site maintenance departments plan and implement HVAC maintenance on campuses. Staff members communicate with lead personnel, in real-time, for maintenance through the SchoolDude referral

work order system. HVAC system inspections occur in intervals recommended by the manufacturers' warranty and are adjusted or upgraded when problems arise.

- The district's HVAC units are equipped with economizers for mixing fresh air with the returned air. To address the increased need for outdoor air circulation caused by the pandemic, classrooms also leave doors open. In addition, the district installed or replaced worn window screens on all portable builds to facilitate a fresh air source without leaving the doors open.
- Staff reports any leaks found on the SchoolDude website, which connects the custodial crew to real-time information. On-site staff remediates any problems that may arise. Certified district personnel are available to assist if further actions are necessary. Finally, if any personnel find mold, the district will call a certified mold abatement specialist for removal.
- The district monitors areas carefully to maintain painted areas and ensure that paint is intact. There are no loose paint chips on older portions of school campuses. Any lead-based paint has been painted over with lead-free, low-VOC paint. All paint on newer district buildings is lead-free.
- The schools' drinking water comes from the City of Merced, Atwater, and Livingston municipal water sources, deep-water wells. The cities constantly monitor water conditions for clean and safe water standards and guidelines. Water providers send out a Water Consumer Confidence Report annually to disclose regulated contaminants and their levels. When district sites were tested for lead in water in 2017, no elevated levels were found.

#### *Element IIB: Nutrition and Fitness*

- Pre-COVID, the district participated in California Thursdays (California Foods for California Kids) and most notably has been a participant in past Collective Action Day events. In addition, sites hosted events that included a California Grown menu and an invitation to local businesses within the county to participate in facilitating local procurement partnerships. Student green teams around the district also highlighted garden-fresh produce and prepared a recipe with campus-grown ingredients.
- MUHSD partners with Alliance for a Healthier Generation to provide a Smart Snacks Product Calculator and individual guidance online. The district has a nutritional snack standard in accordance with Healthy Hunger-Free Kids Act, USDA guidelines, and the district's Wellness Policy. Additionally, all students and families of MUHSD receive regular communication on nutrition resources, including, but not limited to, community organizations offering nutrition education and food benefits.
- Each campus has greenhouses and raised gardens, with some campuses offering orchards of fruits and nuts. These sections of each school also have areas set aside for raising and caring for animals. CTE Agriculture and Resources class and FFA Clubs give students another opportunity to work in the

gardens. Students, staff members, and families work together after school or on weekends.

- Prior to COVID-19, school gardens provided cafeterias with over 200 pounds of fresh fruits and vegetables and fresh eggs raised by FFA students annually. However, due to county health department regulations during the pandemic, cafeterias could not use the food from the gardens, so the district donated approximately 800 pounds of harvested produce to rescue missions and food banks to help those in need. In addition, the district has a partnership with UC Merced to reduce food waste. When extra food is nearing expiration, the food district staff deliver it to UC Merced's Food Pantry for immediate delivery to those in need.
- In after-school cooking classes, students cook with organic fruits and vegetables. In these classes, students compete in cooking showdowns where staff members assist students in preparing dishes that have themes. Most themes are picked by what organic foods are available seasonally from school gardens.
- All freshmen students take a health class, which includes lessons on the importance of a well-balanced meal. Students in the class create a Healthy Lifestyle Plan. In this project, students track their weight, measurements, and average daily diet intake. Some students develop weight lifting circuits, yoga routines, and stretching regimens based on individual goals in their plan.
- MUHSD students participate in more than 20 league sports. After-school programs also offer intramural sporting activities. In addition, the district's continuation campuses have created the state's only alternative education sports league, which includes seven sports, in collaboration with schools in three other counties.
- MUHSD has multiple committees addressing student Health and Wellness. For example, the district's Local Control and Accountability Plan Parent Advisory Committee meets every two months to discuss issues directly with students, parents, and community members. In addition, the Principal Site Councils were formed for students to consult directly with the principals on topics such as obtaining more control of the cafeteria menu and having more support staff in the nursing office. The success of these committees directly led to increased hours of nursing staff, more student input on school breakfast and lunches, and the addition of Anger Management Programs and Drug Opportunity Centers on campuses.
- MUHSD cares for staff wellness by offering employees a once-a-month Nurtured Hearts Approach seminar that teaches mental health, relaxation, and personal resets. Employees are also offered discounts to two local gyms. A retired school psychologist still serves students and staff with crisis prevention and contacts the team regarding student issues. The district's Adult Transition Program's Sierra Café provides healthy food for staff prepared by their adult education students.
- The Sierra Café at the Merced Adult Transition Program is a student-run café where students ages 18 to 22 who have an active IEP and have not received a high school diploma learn food service skills. Many Sierra Café students progress from the Sierra Cafe into "unsupervised" restaurants in the community.

- Each MUHSD campus provides daily access to a school nurse, health aide, and counselors. The registered nurse is available for students with physical illnesses and refers students with emotional difficulties to service providers. In addition, mental health clinicians provide counseling services and assist in psychosocial issues.
- The district has incorporated the Nurtured Heart Approach (NHA) throughout all sites. The district-wide training promotes a philosophy for creating healthy relationships with the people in your life. It successfully supports families, foster care providers, health care professionals, social workers, and school staff seeking successful early intervention strategies. In addition, NHA assists students with adverse childhood experiences that cause significant detrimental issues for cognitive functioning and educational achievement. The NHA Coordinator works with each campus to help staff working with students suffering from anxiety and depression.
- Students at Golden Valley High School and around the district engage in peer-to-peer mentoring and support through UC Merced's "Lift While You Lead" program. The small group mentoring program aims to connect undergraduate students at UC Merced with MUHSD students. The mentoring relationship provides mentees with support, guidance, and encouragement; emphasizing women, health, safety, and leadership.
- MUHSD is committed to stopping bullying and its harmful effects on student learning and school attendance. The *Character Counts* program supports providing a safe school environment that protects students from mental and physical harm. *Character Counts* empowers students with information and strategies for eliminating such actions on all sites. In addition, every site has an anonymous tip line and campaign called *See Something, Say Something*. By addressing these issues, students have the skills to identify unhealthy cycles in their community. In addition, administrators, teachers, and staff have training in restorative justice strategies.

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

#### *Element IIIA: Interdisciplinary Learning*

- MUHSD's Mission and Vision Standards and Career Technical Education for Career Ready Practices statement include a written definition of environmental literacy and sustainability requirements. The district's goal for students is to understand the ecological, social, and economic impact of their decisions. The district places an added focus on helping students make a smooth transition into the workforce while closely connecting to environmental literacy and sustainability choices. The district's policy of requiring students to accomplish a certificate of proficiency by completing at least two CTE courses creates a platform to educate students on ecological issues before entering the workforce.
- All MUHSD students engage in work-based learning in the district's CTE courses to earn industry certifications and college credit. Seven of the 14 CTE pathways

are sustainability or ecologically based, including Agriculture and Natural Resources, Building Construction, Energy, Environment and Utilities, Engineering and Architecture, Health Science and Medical Tech, and Transportation. In addition, all science courses align with the California Next Generation Science Standards (CA-NGSS), integrating environmental literacy and sustainability. Some examples of courses that incorporate environmental and sustainability concepts include the following:

- The Introduction to Energy Conservation CTE course leads a comprehensive survey of the basics in energy and is a foundation to a series of green-pathway courses offered by MUHSD. The course provides an introduction to energy concepts, energy efficiency, green building technology, and alternative fuels.
- The Green Technology and Energy Conservation (GTEC) CTE course is an interdisciplinary course that integrates environmental and sustainability concepts across STEM, Social Studies, and the English-Language Arts curriculum. The course uses hands-on and interactive activities to engage students and assist them with understanding the application of green technology in the environment and how it helps make communities sustainable. In addition, students review laws and regulations impacting energy and discuss these policies' effects on society.
- The Environmental Agricultural Science course has students propose solutions to environmental problems and manage environmental resources sustainably with school gardens and livestock. These activities encourage critical and scientific thinking, information utilization, analysis, and solution skills.
- The Agriculture and Natural Resources pathway allows students to explore contemporary issues in horticulture, animal physiology, farm to fork agricultural food science, and agribusiness management.
- The Sierra Nevada Studies Class students learn about the conservation of our parks and the enjoyment of wilderness and the natural world. Students organize hikes and other outdoor activities, provide a focused response to environmental issues in the region, and operate entirely by volunteers.
- The Earth Environmental Science course introduces the basic concepts of environmental earth science, focusing on understanding how the natural environment works and how humans disturb natural processes.
- The district's GTEC instructor collaborated with non-profit Ten Strands on CTE curriculum and standards. The Ten Strands consultant also worked with MUHSD's Green Team Advisor on raised gardens and outdoor classrooms in the district. As a result, environmental literacy learning objectives are embedded across the curriculum to help students develop the capacity to behave successfully and understand how people and societies relate to each other in functioning and evolving natural systems.
- MUHSD has horticulture programs and outdoor classrooms throughout the district, with their most extensive programs residing at Golden Valley High School and Atwater High School. Students in these programs meet in outdoor

classrooms where they engage in environmental and sustainability hands-on lessons focused on plant propagation, worm farming, and maintaining organic gardens with the proper soil fertility.

- In a concerted effort, English and history courses incorporate informational text on historical, present, and future environmental issues and engage students in critical thinking strategies to combat climate change.
- As a part of the environmental curriculum, students research California's water resources and how the water system supplies the needs of the state's population. In addition, students learn about how drought conditions affect agricultural production. Students also learn about water conservation and brainstorm ways to use greywater applications for crop growth.
- MUHSD provides ecologically-based professional development throughout the year. Training opportunities include the following:
  - Environmental and sustainability education CTE courses have staff members as teaching coaches to help teachers develop curriculum, concepts and practices, and new apps and technology delivery.
  - Teachers and staff receive updates for online training and webinars for continuing development.
  - Every June and August, the district sponsors Summer Institutes when presenters provide teachers with information in Science, Technology, Engineering, and Mathematics, including environmental literacy and education. In addition, the district provides stipends for teachers to attend summer training workshops led by Energize Schools, the Forest Institute for Teachers, Project Learning Tree, and Project WET.
  - For over a decade, staff members have been encouraged to attend state and national environmental literacy and sustainability conferences like the California STEAM Symposium and Green California Schools Summit. In addition, organizations like USGBC's Center for Green Schools and Green Schools National Network help connect teachers with curriculum and training to start new programs or enhance current programs.
- All MUHSD schools offer an after-school program named ASSETs. The program hosts several student groups and service clubs, including Green Teams, STEM Club, Garden Club, Environmental Science Academy, Family, Career and Community Leaders of America, Robotics Club, United Nations Junior Ambassadors, and Green Technology Club. These groups complete many environmental projects each year. For example, Green Technology club members communicate the status and progress of ongoing green campus projects to staff, administrators, and community stakeholders.
- Annual field trips around MUHSD include the following:
  - Energy efficiency advocacy at the State Capitol Building in Sacramento. On this trip, students advocate for green legislation on water storage development, central valley air quality, renewable energy credits, solar energy, and increasing the state mandate to 100% renewable energy.



- An annual trip to Monterey Bay Aquarium helps students take leadership roles in their community and environment. On this field trip, students go to the beach to gain hands-on experience seeing and touching the beach and its ecosystem. For most of the students, this is their first-ever visit to a beach, as well as their first-ever field study of a beach ecosystem.
- Students in the CTE Environmental, Energy, and Utilities pathway go on a field trip to engage low-income homeowners throughout the community to participate in their Community Solar Project.
- MUHSD students teach younger children tips on Farm Safety Day at the Merced County Fairgrounds.
- Yosemite High School visits a wastewater treatment plant and county landfill each year for a closer look at how these institutions work and learn the valuable asset they provide to the community. The first visit to the landfill inspired students to look into biodegradable plastics. This trip led to a partnership with Algix, an algae-based company working on protein-based plastics that break down within weeks of hitting a landfill.

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

- MUHSD’s vision is that every student will graduate with a diploma in one hand and a CTE certification of proficiency in the other. To achieve the district’s vision, STEM thinking skills and content knowledge are built from introductory classes and culminate with CTE capstone projects emphasizing occupation-relevant experiences to prepare students to continue training, advanced educational opportunities, and entry to a career. A few examples of capstone projects include internships, leadership opportunities, work-based learning, portfolios, industry certifications, high school/college dual-enrollment, catering projects, and floral arrangements for events/weddings.
- The Energy, Environment, and Utility course provides a foundation of knowledge and skills needed in careers related to energy, the environment, and the utility sector. The pathway emphasizes real-world occupational relevant knowledge, skills, and experiences in environmental resources, energy and power technology, and telecommunications. The course integrates academic and technical skills while preparing students for entry to technical-level employment.
- Students in the GTEC CTE course construct solar systems on residential homes at least four times a year in partnership with GRID Alternatives. Through hands-on solar installation, students gain experience while providing low-income residences with economic and environmental solutions. In addition, the program educates students about future job options and gives them hands-on experience. PG&E provides materials for sustainability system simulations and hands-on practice with industry tools.
- In 2015, students participated in a PG&E Solar Suitcase Project. Suitcases are complete with solar panels and batteries for storage. Students researched the number of populations that don’t have power at their fingertips. These suitcases

were built in class and will provide solar energy to impoverished African continent areas.

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

- In 2019, approximately 15 students from Yosemite High School visited U.S. Senator Diane Feinstein's office to advocate for proper forest care, green energy, and water conservation through forest thinning and dead tree removal.
- MUHSD students take annual trips to the California State Capitol to present environmentally-friendly policies for water storage development, investments, and central valley air quality improvements. On these trips, students have also asked local state representatives to support continuing net metering and state cooperation of tax incentives for renewable energy.
- The state legislature's "There Ought to Be a Law" write-in competition allows students to prepare a regulation or law and have their local senator present it. In 2020, students prepared a Safe Routes to School suggestion of placing a lighted crosswalk in front of every school's main entrance, where no stop sign exists within 900 feet. Unfortunately, the proposal was not selected to move forward. Still, students were able to bring awareness to this issue for consideration in the future and gain experience with advocating for change.
- The Yosemite High School Green Team United Nations Ambassadors investigated the algae problem in China and its effect on the Pacific Ocean. Then the students revisited past state legislation requiring a tax on plastic shopping bags. Students reached out to California Congressman Jim Costa to revise the legislation so only petroleum-based plastic bags that end up as environmental liabilities would be taxed. As an alternative, students suggested new bag options produced from algae protein that break down faster and benefit the environment. In addition, the tax proceeds would help research new algae-based solutions.
- In an after-school project named Forest Sustainability: Issues and Solutions, students used civic engagement skills and their understanding of green technologies to provide a solution to current forest fires issues. In the past two years, the forest fires have added more carbons to the air than if every Californian left their cars running 24 hours a day for the whole year. In collaboration with published college professors, students presented their research on forest problems to elected representatives from local, state, and national offices. Their solution is to remove dead trees with electric trucks and haul them to one of the thirteen wood-burning electricity factories with filters. The cost for removal is fourteen cents per kilowatt, while the energy companies charge anywhere from 18 to 48 cents per kilowatt. With this project, students imagined a world where they could solve a global problem and profit using the lessons learned on sustainability and green technologies.
- MUHSD students have various opportunities for outdoor learning experiences. Programs include:

- Environmental Science, Wilderness Club, and Hiking Clubs. Field trips provide overnight hiking, camping, and backpacking experiences in various national and state parks.
- UC Merced Leadership Program students lead nature and outdoor lessons. In these events, students learn the seven principles of Leave No Trace, known as wilderness ethics. These outdoor adventures are highly beneficial to all students, as many have never experienced much time outdoors. In addition, a variety of topics are discussed, such as ecosystems, geology, and the history of parks.
- Students visit, explore, and observe climate change at Yosemite National Park.
- Student Green Team groups throughout the district schedule activities during Living Schoolyard Month. Although campus leadership teams have green activities throughout the year, the focus during May is to bring awareness to the environment and green issues. These student-driven activities include campus sign-ups to volunteer in the Annual Farm Safety Day event, where students learn how to recognize and avoid hazards common to most farmsteads. Another district activity is the Living Schoolyard Art project during May. Students take an annual trip to Valley Children's Hospital in Madera to help patients at the hospital create an art project for their mothers for Mother's Day. Since most patients can't go outdoors due to treatments, students bring the outdoors to them. MUHSD students assist young patients in painting horses for their gifts. Unfortunately, many treatments don't allow exposure to the public, which creates a hardship for these children to get something special for their mom, but this activity solves both issues. Since the pandemic, students have continued participating virtually through Zoom.
- The 2017 U.S. Department of Education Green Ribbon Schools honoree, Yosemite High School (YHS), has partnered with the California Department of Education (CDE) to showcase whole-school environmental literacy and sustainability achievements. It is the only continuation school in the state to receive the award. In 2019, CDE held an all-day workshop for interested applicants to learn about and apply for state and federal Green Ribbon Schools recognition. Staff members from YHS answered questions and gave tips on best practices to make the journey as easy as possible. At the end of the workshop, staff members from over 30 campuses enjoyed a guided tour led by student members of the campus green team, the Junior Ambassadors.
- MUHSD students and staff collaborate with local institutions of higher education. For example, district staff have partnered with California State University Monterey Bay (CSUMB) to research U.S. Department of Education Green Ribbon Schools and how the program affects students, staff, and schools. As a result, CSUMB has scheduled an on-site visit to YHS to see students' projects and interview students and staff.
- Students around the district participate in UC Merced's once-a-month meeting called Ask Me Anything, where leading environmentalists talk about their passion and students are given the opportunity to ask questions.

- California State University Stanislaus has a workshop for teachers called Next Up that occasionally showcases the work of MUHSD green teams.
- The district encourages collaboration between departments, campuses, and after-school programs to promote civic engagement and environmental sustainability. For example, district personnel across the district and from multiple departments are collaborating on the *Green That School* project supporting the development of a school in Africa, Kenya's Daraja Academy. The team is using the U.S. Department of Education Green Ribbon Schools application as a template to guide their work in creating a sustainable campus at the school. The goal is to make the campus environmentally sustainable, encourage STEM innovations, and find greener technologies.
- Students in the district are teaming up with the Inspire Project and top scientists like Dr. Pardis Sabeti and Dr. Ester Ngumbi, and entertainment environmentalists Les Stroud and Dan Povenmire (co-creator of Phineas and Ferb). These stars will mentor both MUHSD and Daraja students to seek their passions and work in the fields driven to happiness.