ENVIRONMENTAL SUSTAINABILITY ACTION PLAN

Climate Change and Green Schoolyards

Resolution No. 05-012623 (2/9/2023)

Board of Trustees Review (5/2/24)

Mountain View Whisman School District

The Environmental Sustainability Action Plan is organized into six **Focus Areas**:

1. **Energy Conservation**
2. **Water Stewardship**
3. **High Performance Schools**
4. **Campus Ecology**
5. **Emerging Technologies**
6. **Education and Awareness**

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1. ENERGY CONSERVATION

1.1. Policy

- Comprehensive energy management program reducing overall energy use and use of fossil fuels, increases use of renewable and clean energy, and results in reduced energy costs.

1.2. Lighting Systems

1.2.1. Policy

- Continually upgrade lighting systems with emerging technologies to reduce energy consumption. Upgrade systems at end of service life or with construction projects/acquisition cycles.

1.2.2. Practice Implementation

1.2.2.1. Fixtures

Existing

- Older fixtures replaced with new energy efficient fixtures during Measure G renovation/construction projects.

Future

- Continue to track and replace aging and obsolete fixtures.

1.2.2.2. Operating Systems

Existing

- As part of Measure G, Measure G renovation/construction projects, newer lighting systems with sensors and timers installed. Sensors and timers not operating properly.

- Newer control systems installed only at selected sites. Systems are controlled by the vendor. System cannot be centrally managed by the District.

Future

- Install a single, smart operating system across the entire District that can be centrally managed by the District.

1.3. Mechanical Systems

1.3.1. HVAC System

1.3.1.1. Policy

- Continually upgrade HVAC systems with emerging technologies to reduce energy consumption. Upgrade systems at end of service life or with construction projects/acquisition cycles.

1.3.1.2. Practice Implementation

<u>Existing</u>

- HVAC systems at all school sites are being replaced with newer, more energy efficient systems. District will be able to centrally monitor and manage HVAC systems at all school sites.
- Project is funded and ongoing. Complete by end-2025.

<u>Future</u>

- Ensure new systems are operating correctly.

1.3.2. Plumbing/Water Heating

1.3.2.1. Policy

- Continually upgrade water heating systems to reduce energy consumption and use of fossil fuels. Upgrade systems at end of service life or with construction projects/acquisition cycles.

1.3.2.2. Practice Implementation

<u>Existing</u>

- Existing systems powered by electrical and natural gas.

<u>Future</u>

- Systems upgraded and powered by renewable or clean energy sources.

1.4. Building Envelope

1.4.1. Policy

- Continually upgrade building systems to ensure thermally efficient buildings. Reduce energy use to heat, cool, and light buildings. Replace building systems at end of service life or with construction projects. All renovation/construction projects meet or exceed current CA Building Energy Efficiency Standards.

1.4.2. Practice/Implementation

1.4.2.1. Walls

Existing

- Walls in older buildings are not well insulated.

- Measure G renovations to existing buildings did not include wall replacement/upgrades.

- Measure G and T new construction projects included newer, insulated wall systems meeting CA building energy efficiency standards.

Future

- Study needed to establish scope, costs, and benefits to renovate/upgrade older wall systems at school sites.

1.4.2.2. Roofs

Existing

- Prior survey determined that roofs at all school sites needed to be replaced. Other Measure G and T projects were prioritized. Roofs are at the end of their service life and increasingly require emergency repairs.

- Scope and budget for roof repair or replacement projects completed. Costs were prepared in 2023 and estimated to be $11.5 million. Project is awaiting Board approval.

Future

- Board approval of roof projects.

1.4.2.3. Windows

Existing

- Windows at all school sites are being replaced with newer, more energy efficient, double-pane window systems.

- Project is funded and ongoing. Complete by Summer 2024.

Future

- Replace at end of service life or with construction projects.

1.4.3. Metrics

- Reduced energy use to heat, cool, and light buildings.

1.5. Renewable Energy

    1.5.1. Policy

- Expand use of renewable energy and reduce reliance on fossil fuels.

    1.5.2. Practice/Implementation

        1.5.2.1. Solar Energy

<u>Existing</u>

- Free-standing solar arrays installed on all school sites with Measure T.
- Solar arrays installed in playgrounds and function as shade shelters.
- Energy generated feeds into public utility network (PG&E).

<u>Future</u>

- City of Mountain View is proposing to install roof mounted solar arrays at City/District shared gyms at Graham and Crittenden MS.
  - o City proposal will be presented to Board for approval.
  - o Funding deadline to complete project by April 2025.

        1.5.2.2. Electric Vehicles (EV)

<u>Existing</u>

- District consultant (NV5) completing feasibility study to transition District Fleet (MOT buses, trucks, vans, etc.).
  - o Presentation to the Board with recommendations and estimated costs in Spring 2024.

<u>Future</u>

- Electrical Infrastructure
  - o Electrical infrastructure to be funded by bonds (e.g., charging stations, electrical lines, substation/ transformers, etc.).
  - o Operating systems to be coordinated and installed with charging stations and EV purchases.
- Electric Vehicles
  - o Vehicles and equipment to be acquired with general funds.

    1.5.3. Metrics

- Projects approved, funded, and implemented.

- Increased percentage of energy from renewable sources.

2. WATER STEWARDSHIP

2.1. Policy

- Conserve potable water and reduce potable water use on school sites. Recharge groundwater sources and reduce impacts to natural water bodies.

2.2. Practice/Implementation

2.2.1. Indoor Plumbing Systems

Existing

- Smart, low-flow faucets installed in restrooms and kitchens at all school sites.

Future

- Replace all remaining fixtures with newer, more efficient fixtures (e.g., toilets, urinals).

2.2.2. Site Irrigation

Existing

- Automated, timer-based normal-flow irrigation systems.

Future

- Install smart, lower-flow irrigation systems (e.g., sensor-/weather-based, drip irrigation).
- Upgrade irrigation systems on City-managed grass playfields.

2.2.3. Recycled Water

Existing

- No school site recycled water systems.
- Municipal recycled water systems do not abut existing school sites.
- Only municipal recycled water system is in North Bayshore in Shoreline Regional Park area.
- Existing City recycled water ordinance requires customers in North Bayshore to use recycled water for landscape irrigation.

Future

- Connect the new school site in North Bayshore to the Shoreline Park municipal recycled water system.
- Monitor future expansion of municipal recycled water network.

- Evaluate opportunities for on-site recycled water systems.
  - o If developing a new MOT facility, evaluate feasibility for self-contained recycled water system for vehicle and equipment washdowns.
  - o Explore opportunities for on-site rainwater recycling systems for local site irrigation, reuse, educational/learning opportunities (e.g., rain barrels, rain gardens, bioswales, etc.).

2.2.4. Stormwater Management

<u>Existing</u>

- Surface runoff is collected from impervious surfaces (i.e., roofs, parking lots, playcourts), directed to storm drain inlets, discharged into the municipal stormwater collection system, and ultimately into San Francisco Bay.

<u>Future</u>

- Create opportunities for runoff to be collected, retained, reused, and/or discharged into the ground on school sites (e.g., bioswales, rain gardens, dry wells, etc.).
- Create renaturalized and landscaped areas that can contain, filter runoff, and recharge groundwater sources.

2.2.5. Plant Palette

<u>Existing</u>

- Extensive use of non-native plants.
- Traditional, ornamental landscapes emphasizing tidy visual appearances.
- Use of turf in high-use and low-use areas.

<u>Future</u>

- Install native, drought-tolerant plants more extensively on school sites.
- Install native plants into outdoor learning areas.
- Reduce use of turf in low-use areas.
- Update landscape maintenance program to support natural, native landscapes.

2.3. Metrics

- Reduced potable water use on school sites.
- Increased on-site stormwater retention.
- Reduced runoff and discharged into the municipal stormwater system.
- Extensive use of native plants throughout school sites.

- Updated maintenance procedures to support native landscapes.
- Recycled water systems connected to a municipal network.

3. HIGH PERFORMANCE SCHOOLS

3.1. Policy

- Create high-performing, energy-efficient school sites that minimize impacts to the environment.
- Model exemplary and innovative sustainable site and building concepts.

3.2. Practice/Implementation

- Identify and apply recognized programs and criteria to benchmark projects.
- Meet or exceed CA building energy efficiency standards.
- Integrate applicable design criteria and standards into RFPs for new construction and renovation projects.

3.3. Metrics

- Certification of District and school sites with State and National programs (e.g., US DOE/CA Green Ribbon Schools).

4. CAMPUS ECOLOGY

4.1. Policy

Improve green landscapes and green infrastructure to create holistic, nature-based learning environments on an equitable basis across all school sites.

4.2. Practice/Implementation

4.2.1. Greening Index

- Establish an index to provide a comparative measure of greening resources across all school sites.

4.2.2. Greening Metric

- Develop a metric to assess greening resources, deficiencies, and opportunities on school sites. Assess and prioritize the equitable distribution of greening resources across the District.

4.2.3. Greening Score

- Apply criteria from the Greening Index and Greening Metric to establish a greening score for individual school sites to be used on a comparative basis with schools across the District.

4.2.4. Greening Plan

- Develop green space plans for each school site to achieve the desired greening score to maintain equity among school sites in the District. The green space plan should identify opportunities for the following:

    o   Increasing green space and shade in student use areas

    o   Landscapes that support student learning and outdoor activities

    o   Native plants and native landscapes

    o   Outdoor/nature-based learning spaces and habitats

    o   Reducing impervious surface areas and increasing on-site stormwater retention

4.3. Metrics

- Equitable greening of school sites
- Continuous greening improvements on each school site

5. EMERGING TECHNOLOGIES

5.1. Policy

- Integrate emerging technologies to create higher performing, more energy efficient, and more environmentally sustainable school sites.
- Integrate emerging technologies that provide direct or indirect environmental benefits.

5.2. Practice/Implementation

- Continuously assess and integrate emerging technologies into capital projects and major equipment/systems acquisitions.

5.3. Metrics

- Emerging technologies are applied throughout the District on a continuous, ongoing basis.

6. EDUCATION AND AWARENESS

6.1. Capital Projects and Equipment/Systems Acquisitions

6.1.1. Policy

- Use capital projects and major equipment/system acquisitions as educational opportunities and to increase awareness.

6.1.2. Practice/Implementation

- Identify potential opportunities to achieve environmental sustainability goals with upcoming projects and acquisitions.

- Summarize environmental sustainability benefits from completed capital projects and major equipment/systems acquisitions.

6.1.3. Metrics

- Periodic update program in place.

6.2. Operations and Purchasing

6.2.1. Policy

- Integrate environmental sustainability into operations that may improve student health, reduce impacts to the environment, conserve natural resources, and improve environmental stewardship.

- Integrate environmental sustainability into purchasing where opportunities are available to reduce impacts to the environment and support environmentally oriented suppliers.

6.2.2. Practice/Implementation

- Identify opportunities to modify District operations to improve student health, reduce impacts to the environment, and more efficiently use finite natural resources.

- Establish policies and guidelines for purchasing recycled, renewable, and/or sustainably sourced products where costs may vary from conventional sources.

- Identify larger volume purchasing opportunities where recycled, renewable, and/or sustainably sourced products are available.

- Apply updated policies and practices to the following:
  - Food Services

    - Child Nutrition

      Expand menu options that include environmentally sustainable food and choices which improve student health and reduce impacts to the environment.

    - Cutlery/Supplies

      Purchase products produced from recycled, renewable, and/or sustainably sourced materials and suppliers.

- Food Preparation and Sourcing

  Source food products from local and/or environmentally sustainable producers.

  o School Supplies

    - Purchase higher volume school supplies made from recycled or sustainably sourced materials.

    - Purchase school supplies from environmentally sustainable sources.

  o Waste Management

    - Expand opportunities to divert solid waste from disposal in landfills, including self-sorting at school sites and disposal/recycling alternatives.

    - Reduce waste generation, including recycling and reuse of organic waste and inorganic materials.

6.2.3. Metrics

- Policies and guidelines in place to guide operations and purchasing.
- Operations: reduced energy and water use

6.3. Education and Engagement

6.3.1. Education

6.3.1.1. Policy

- Integrate environmental awareness and stewardship into student instruction.

6.3.1.2. Funding

- Fund innovative, nature-based learning that increases student understanding of the environment, impacts to the environment, and opportunities for environmental stewardship.

6.3.1.3. Practice/Implementation

- Identify and align with national and international standards for environmentally oriented instruction.

- Continually update curriculum and instruction to align with global trends and national standards.

- Expand opportunities for outdoor/nature-based learning on school sites.
- Expand student education/learning opportunities through partnerships.

6.3.1.4. Metrics

- Curriculum and instruction continually updated and aligned to state, national and global trends integrating environmental sustainability into student education.

6.3.2. Engagement

6.3.2.1. Policy

- Foster awareness, individual responsibility, and collective behavioral changes at the local, school site level.
- Provide leadership at the local, school-site level.
- Provide District-level coordination to local school site initiatives.

6.3.2.2. Funding

- Fund staff-led- school site committees supporting environmental sustainability initiatives at individual school sites.
- Explore innovative funding models for partnerships.

6.3.2.3. Practice/Implementation

- School Site Committees
  - Establish a school site committee at each school comprising of volunteer staff and students.
  - Each school site committee would be led by a staff volunteer, who would receive a stipend to compensate for the responsibilities and time required of the role.
  - School site committee tasks and responsibilities include:
    - Prepare site-specific action plans.
    - Foster awareness and disseminate information to staff and students.
    - Identify strategies to engage students, families, and the community.
    - Identify areas of opportunities for each school site, including but not limited to:
      - Child Nutrition
      - Waste Reduction

- Outdoor/Nature-based Learning
- Environmental Stewardship
- District Program Lead for School Site Committees
  - One staff volunteer to function as the District-wide school site committee lead.
    - Program lead would receive a stipend for responsibilities and time required of the role.
  - Coordinate efforts of school site committee leads.
  - Share information between school site committees.
  - Liaison with District leadership, Curriculum and Instruction staff, and the Board.
- Partnerships
  - Identify opportunities for partnerships to expand engagement with the community, local businesses, and other resource organizations.

6.3.2.4. Metrics

- School site committee leads established and funded at each school site and at the District-level.
- Increased student, staff, and community engagement.