



New Recycling Education Center Models Best Practices in Green Building Design.

INTRODUCTION

Since 1995, StopWaste.Org has partnered with Waste Management, Inc., (WM) at the WM Davis Street Transfer Station to provide an Education Center for Alameda County teachers and students on waste reduction and proper waste management. Over 38,000 students have visited the Education Center in the past 10 years.

The two-hour Education Center program for 4th and 5th grades, involves a review of the 4Rs – reduce, reuse, recycle, and rot (compost), hands-on activities and a tour of the working transfer station and material recovery facilities. The Education Center has been housed on the second floor of a building where the workers break room is located.

The upgrade to the Education Center included moving it to a new location on the 53-acre Davis Street Transfer Station site that is more convenient for school buses to park, provides easier and safer access for the students, increased classroom space, and adequate restrooms for 30 kids. StopWaste.Org owns the building and operates the Education Center; WM provides the space and access to their facility for the Education Center and tours. A portable building met the needs of the project including timeline and cost.

PROJECT GOAL

1. Program Needs -- The building was designed to meet the developing program needs of the Education Center – updated exhibits, more interactive education space, quick and safe access from the bus to the Center, and more bathrooms, to name a few.
2. Indoor Environmental Quality -- The building was designed to provide the healthiest environment for the students & employees. "Green Building" methods and materials were used to the maximum extent possible throughout the design and construction of this building to provide a healthy and productive work and study environment.
3. Reduced Maintenance and Operating Costs -- The building was designed and constructed using the most durable materials available to minimize maintenance requirements and keep the Center in good condition. It was also designed to be energy-efficient, thus reducing energy consumption.
4. Aesthetically Pleasing -- The building was designed to be more aesthetically pleasing than the typical portable building.

The project's goals were met using "Green Building" methods. Green Building is a whole systems approach to the design, construction and operation of buildings. The approach benefits owners and occupants of buildings by reducing the negative impacts of buildings on our health and our natural environment. It also benefits owners and occupants by decreasing the on-going operations and maintenance costs of buildings.

In addition to striving for the most aesthetically pleasing and functional design, specific green building measures that were incorporated include the selection of the most durable, lowest maintenance, and healthiest materials for the building. The benefit will be lower operating costs and fewer maintenance dollars required for the Education Center in the future.

GREEN at a GLANCE

A recap of green building aspects of the Education Center

Resource Efficiency

- Recycled content carpet, ceiling tiles, decking, bathroom partitions, insulation, steel framing, fly ash concrete, and aggregate
- Fiber-cement exterior siding
- Cellulose insulation

Energy Efficiency

- Dimmable skylights
- Cool/ENERGY STAR roof
- SEER 12 HVAC system, with a CO2 sensor
- Energy efficient lighting
- Low-E dual pane glazing on windows

Indoor Air Quality

- Low VOC paint, sealants, and adhesives
- Formaldehyde-free insulation
- Formaldehyde-free ceiling tiles

GREENING A STANDARD CLASSROOM

The Education Center was designed using knowledge gained by StopWaste.Org staff during research on portable buildings in 2002, and by participating in the State of California's Sustainable Building Task Force.

In 2003, the State of California released several reports about the environmental health conditions in California's portable classrooms. A Sustainable Building Task Force was charged with developing a high performance specification for portable classrooms to address the conditions documented in the "Portable Classroom Study". The Task Force's purpose is to develop a high performance specification for portable classrooms in California. Other members of the Task Force include representatives from: California Department of Health Services, California Air Resources Board, California Department of Education, California Department of General Services, and the Division of the State Architect.

Examples of "Green Building" measures incorporated into the irecycle@school Education Center include:

- Use of low-VOC paints, sealants, adhesives and formaldehyde-free insulation and ceiling tiles to improve indoor air quality.
- Use of dimmable skylights to bring daylight into the building, improving the indoor quality of the space.
- Use of recycled-content materials, such as composite decking, recycled content bathroom partitions, steel framing, carpet, ceiling tiles, fly ash concrete for sidewalks, and recycled aggregate for fill, to reduce the consumption of natural resources.
- Use of durable, low maintenance products, such as cementitious shiplap siding, composite decking, carpet and recycled plastic bathroom partitions to reduce the cost of maintenance and amount of materials needed over the life of the building.
- Use of energy efficient products, including a "Cool/ENERGY STAR" roof, low-E dual pane glazing in the windows, energy efficient lighting, dimmable skylights, and a high-efficiency heating, ventilation and air condition system, with a CO2 sensor, to reduce the consumption of energy and to improve the indoor air quality.

LOCATION

DAVIS STREET TRANSFER STATION
2615 Davis Street,
San Leandro, CA 94577

ORIGINAL EDUCATION CENTER OPENED
1995

ORIGINAL SIZE
960 square feet

NEW EDUCATION CENTER COMPLETED
2005

NEW CLASSROOM SIZE
1,440 square feet

NEW RESTROOMS
400 square feet

PORTABLE BUILDINGS COST
\$160,000

BUILDING MANUFACTURE
American Modular Systems, Inc.

CONTRACTOR
Want Construction



For more information on the
irecycle@school
Education Center, go to
www.irecycleatschool.org



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www.buildgreennow.org

