Bechtel Family Center for Ocean Education and Leadership

Building tour Talking points

**Caveat**

The purpose of this document is to provide guidance for talking points for the Bechtel Family Center for Ocean Education and Leadership (Education Center)

**Facility Specifications**

Location: 625 Cannery Row

Monterey, CA 93940

Size: 25,500 square feet

Construction: Nov 2016 - April 2019

Architects: Mark Cavagnero Associates Architects

1045 Sansome Street Suite 200, San Francisco, CA 94111

Construction: Blach Construction Company

40 Ragsdale Drive # 140

Monterey, CA 93940

**LEED** -Leadership in Energy and Environmental Design

It is a Green building certification program for building design, construction, operations and maintenance, global

**LEED buildings save energy, water and resources**

* They generate less waste and support human health.
* To receive LEED certification, projects pursue credits that earn points
* There are prerequisites and credits for each rating system

**Rating system:**

* Certified (40-49), Silver (50-59), **Gold (60-79)**, Platinum (80+)
* After the team reviews the project, the building will receive a certification level based on the number of points earned
* Third party verification
* Tests equipment to ensure building functions per design

**Notable Features of the Ed Center**

* The building is designed to achieve *LEED Gold certification*

**Recreation Trail-**

* Landscaped plaza between the building and the adjacent Monterey Bay Coastal Recreation Trail to ease bottleneck effects of school groups mingling and migrating between the Bechtel Education Center and the main aquarium three blocks away.
* Native plants
* Rocks from foundation excavation re-used in landscape/hardscape
* Collaboration with the City of Monterey to share water usage for Recreation trail landscaping
* Collaboration with the City of Monterey for shared revenue for Parking Lots at 580 and 600 Wave Street

**Bechtel Cannery Row**

* Collaboration with the City of Monterey to allow Bus Parking M-F 8AM – 11AM on Cannery Row at the Group Entrance during school year
* Use of local vendors for sidewalk cleaning, Window Cleaning and Landscaping with Cannery Row Business partners and the Cannery Row Company

**1sst floor** –

* Public Gallery
* Public gallery space along the Cannery Row street front which will be free of charge to enter.
* Multipurpose Room
  + Versatile room for lunches, classroom space or expanded room for Innovation Lab
  + Crestron multimedia equipment with large wall mounted televisions
  + iOS wireless connectivity or Windows HDMI connectivity
* Innovation Lab
  + Full use STEM Makers Lab
* Life Support Room
  + Sea Water System 10K water Circulation - 2 separate 3K water waste and makeup reservoir vault
* Battery closet
* Radiant Floor Heating
  + Optimize energy performance
    - Instead of having a single HVAC system that controls the climate of the entire building, there are multiple subsystems that control the climate zone by zone depending upon whether the sun is shining through the windows, lots of people are producing heat in a space, or the exterior temperatures are high or low, among other factors.
    - As much as possible, we use a passive ventilation system which makes use of natural forces such as wind and thermal buoyancy to circulate the air. Warmer, less dense air rises and escapes through open windows regulating internal air temperatures as well as bringing fresh air in to the building.
* Energy Performance
  + Automated systems for maximum efficiency
  + HVAC
  + Lighting
  + Window shades
  + Natural ventilation
  + Hybrid Electrical System
  + Emergency power for life support system
  + Photovoltaic panels on roof
  + Battery storage back-up
* Group Entrance for School group and Educator Programs Check-in
* Tiered seating area for awaiting groups at check-in
* State of the art audio and PA system incorporated in Group Entrance
* Separate Domestic Water Entry Room
* Primary Electrical Room – 3 Phase Power

**Atrium and Staircase**

* Windows incorporate faintly patterned glass to reduce bird strikes by discouraging them from mistakenly thinking the openings are flight pathways.
* LED Lighting built into handrails
* Passive Ventilation
  + Windows in the atrium are regulated by temperature-controlled actuators.   As the temperature in the atrium rises, the upper windows open allowing excess heat to escape.   Once the temperature has dropped, the windows close.

**2nd floor-**

* Sustainably Harvested Wood Paneling
  + The exterior plank paneling is yellow cedar from Oregon.  Yellow cedar is often used in boat building because of its resistance to weather and strength.  It’s also used in aircraft construction because it is light weight.
  + The interior panels are white oak harvested from the Pacific Northwest and FSC (Forest Stewardship Council) certified. FSC certification ensures that products come from responsibly managed forests that provide environmental, social and economic benefits.
* Four learning laboratories include eight 200-gallon saltwater ‘teaching’ tanks. Programming incorporates the use of video technology in each lab to supplement the activity in the tanks as topics are explored in depth.
  + Seating with 100% pre-consumer waste
  + Hydration stations
  + Crestron Multimedia systems with large wall mounted monitors
  + Bike storage

**3rd floor-** Offices, Collaboration space, showers

* A ‘collaboration space’ provides room for staff educators, teens and teachers to work together in a project-based learning environment – partnering on new approaches that they can take into the classroom and the community.
  + Fabric with 100% post-consumer recycled polyester
  + Carpet tile with 39.3% pre-consumer content
  + PET acoustic material with 50% post-consumer content
* Automatic Lighting
  + Lightingthroughout the building, is controlled through occupancy/vacancy sensors.  Exterior lighting goes on at dusk and off at dawn.  All of the fixtures use LED lights which are energy efficient and produce very little infrared radiation which releases heat into the surrounding areas.
* Acoustics
  + A great deal of thought and planning has gone into the acoustic design of the Bechtel Center.  Acoustic panels in the ceilings and carpeted floors on the third floor help modulate noises’ double paned windows also reduce the sound from the exterior.  The perforated acoustic wood panels in the atrium will help muffle the noise of hundreds of students walking up and down the stairs to their Discovery Lab programs.

**4th floor** – Forum and Garden

* A native plant roof garden will minimize water runoff and also serving as a teaching tool.
  + efficient use of natural ventilation and light to minimize energy usage
  + water systems designed for efficiency and conservation
    - Water Efficiency
    - Drought tolerant plants
    - Locally adapted coastal bluff species
* Rooftop Native Garden
  + The rooftop garden is representative of a California Coastal Bluff, similar to what you would see near Garrapata State Park.  The plants were selected to attract pollinators and provide habitat for a rich diversity of soil invertebrates.
  + Over time, it will be interesting to see how the garden grows and transitions as wind-blown and bird deposited seeds take hold and grow.
  + In addition to providing a beautiful view, the garden will be used to introduce teachers to ways they can incorporate more outdoor learning experiences for their students.
    - supplemental solar panel and storage battery arrays manage power usage at peak times and serve as emergency power back-up in the event of a power outage
    - weather station
* Solar Panels and Batteries
  + We installed a 7kW (kilowatt) solar system on top of the 4th floor Forum building.  Energy produced by the system will charge batteries on the 1st floor.  The battery inverter will convert the direct current (DC) to alternating current (AC) so it can be used to partially run our systems at night and during emergencies. A sunny day will produce about 3-4 hours’ worth of power.
* Rainwater Collection
  + The pavers on the roof are set up on pedestals and have narrow spaces between them.  Rainwater seeps between the pavers and collects in a catchment area where it is pumped to our 500 gallon rainwater storage container.   The collected water is used to irrigate our native plant garden.  Excess irrigation water is collected and returned to the rainwater storage container to be reused.
* **State-of-the-Art Lighting** 
  + Ceiling fixtures in the Elliot Forum have color balanced “tunable” LED lights that can change from “cool” with more blue and white components to “warm” with more yellow and gold components.  Research has shown that the color of light can impact a person’s energy and productivity.
* **Bird Friendly Glass**
  + Birds colliding into human-built structures is one of the most significant causes of bird mortality.
  + It is the reflective and transparent characteristics of glass that create the danger for birds, as they cannot see it as a barrier.  They fly to sky and trees reflect by or on the other side of a window and collide with the glass.  To prevent these collisions, glass must somehow be made visible to birds.
  + Birds can see light in the ultraviolet spectrum, bird-friendly glass has a patterned, UV reflective coating making it visible to birds while remaining virtually transparent to the human eye.

**Climate Action Project Summit**

This fall, we’ll take that further, as we launch our new Climate Action Project Summit. Designed for 6th- through 12th-grade educators, this program will support the next generation of change makers in identifying and acting on opportunities for climate change solutions in their communities.

Details:

Sustainable site

Public transit access

Bike storage

Shower on site

Construction Waste Management

In keeping with MBAs Zero Waste Sustainability Goal

Strategies🡪 Zero net emissions🡪 no single-use plastics, sustainable purchasing, zero waste to landfill🡪 sustainable sourcing

Water Efficiency

Drought tolerant plants

Locally adapted coastal bluff species

Energy Performance

Automated systems for maximum efficiency

HVAC

Lighting

Window shades

Natural ventilation

Hybrid Electrical System

Emergency power for life support system

Photovoltaic panels on roof

Battery storage back-up

Recycled Content

Seating with 100% pre-consumer waste

Fabric with 100% post-consumer recycled polyester

Carpet tile with 39.3% pre-consumer content

PET acoustic material with 50% post-consumer content

Rocks from foundation excavation re-used in landscape/hardscape

Bechtel Center Project Scorecard

**Sustainable sites (SS)** (20 points confirmed)

Construction Activity Pollution Prevention

Site Selection (1) max

Development Density (5)

Alternative Transportation (6)

Including parking capacity

Storm water Design

**Water Efficiency (WE) (2 points confirmed)**

Water Use Reduction (20%) reduction

Water Efficient Landscaping

**Energy and Atmosphere (EA) (20 points confirmed)**

Optimized Energy Performance (14) scale 1-19 (Design phase)

Onsite Renewable Energy (3) scale 1-7 (Design phase)

Green Power (maybe)

**Materials and Resources (MR) (6)**

Storage and Collection of Recyclables

Construction Waste Management

Recycled Content

Certified Wood

Indoor Environmental Quality (EQ) (7)

Minimum IAQ Performance

Environmental Tobacco Smoke Control

Low-Emitting Materials

Thermal Comfort

**Innovation and Design (ID) (2)**

Exemplary (1)

**Regional Priority (RP) (3)**

Based on the score card for this building, there are 60 points (definite) and 110 points possible

USGBC.org/LEED