



OVERVIEW This new 90,000 sq. ft. public library is a landmark three-story building with two levels of underground parking. A state-of-the-art resource center for literacy and lifelong learning, the Library features 100 public internet terminals, expanded areas for children and teens, and a sustainable, energy efficient design. A two-story entry lobby, quite transparent to the street, serves as the orientation hub to the building. From here, patrons can see to all levels of the building; a staff welcome desk supplements any orientation needs. The building turns inward to preserve an existing redwood grove, and a treehouse-like mezzanine level opens to the redwood grove with tall windows. On the second floor, a two-story central reading room further aids in ease of orientation in the building and brings daylight into the building's center from high clerestory windows.



Architect
EHDD Architecture

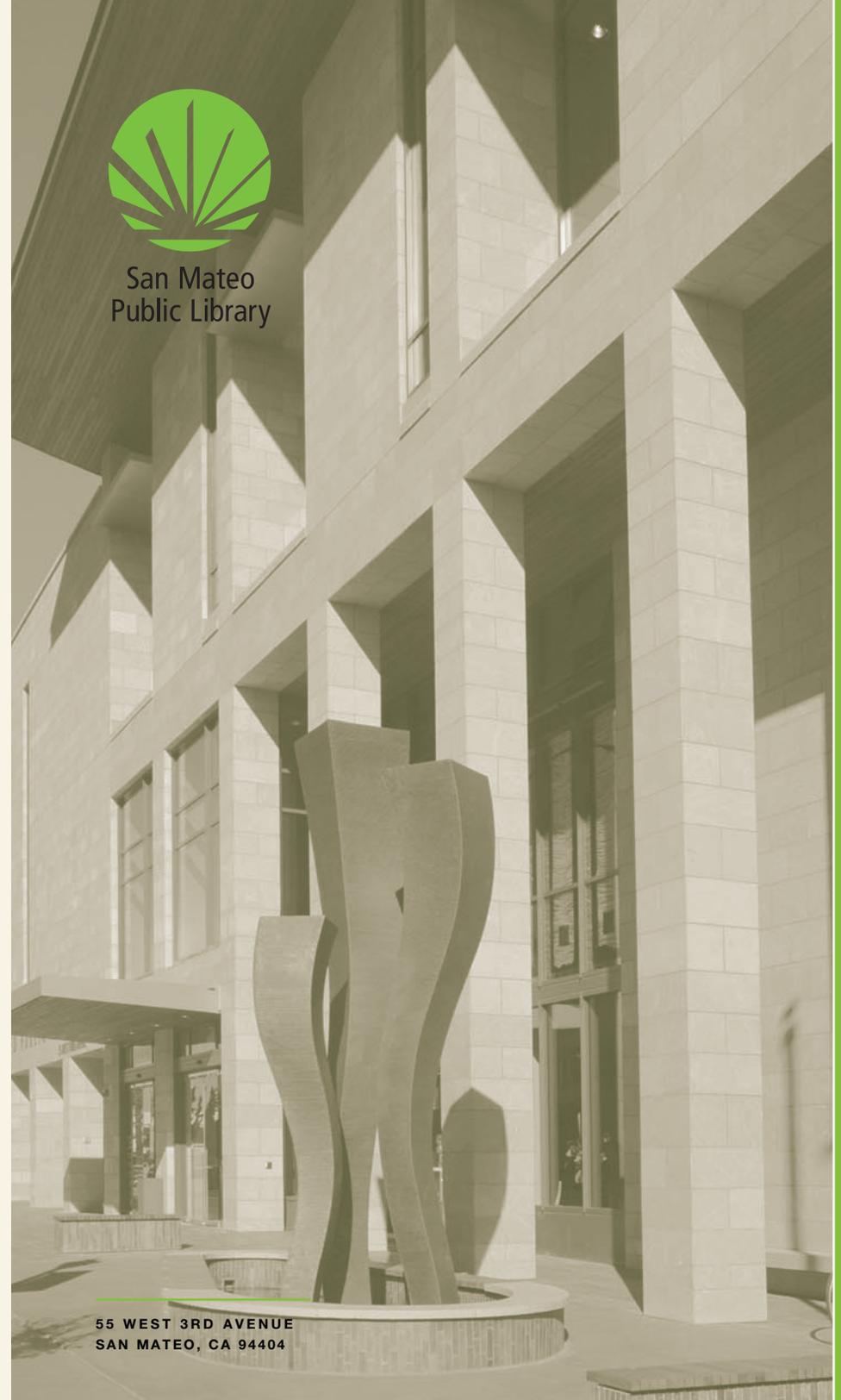
Furniture Design
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Builder
Pankow

EHDD ARCHITECTURE

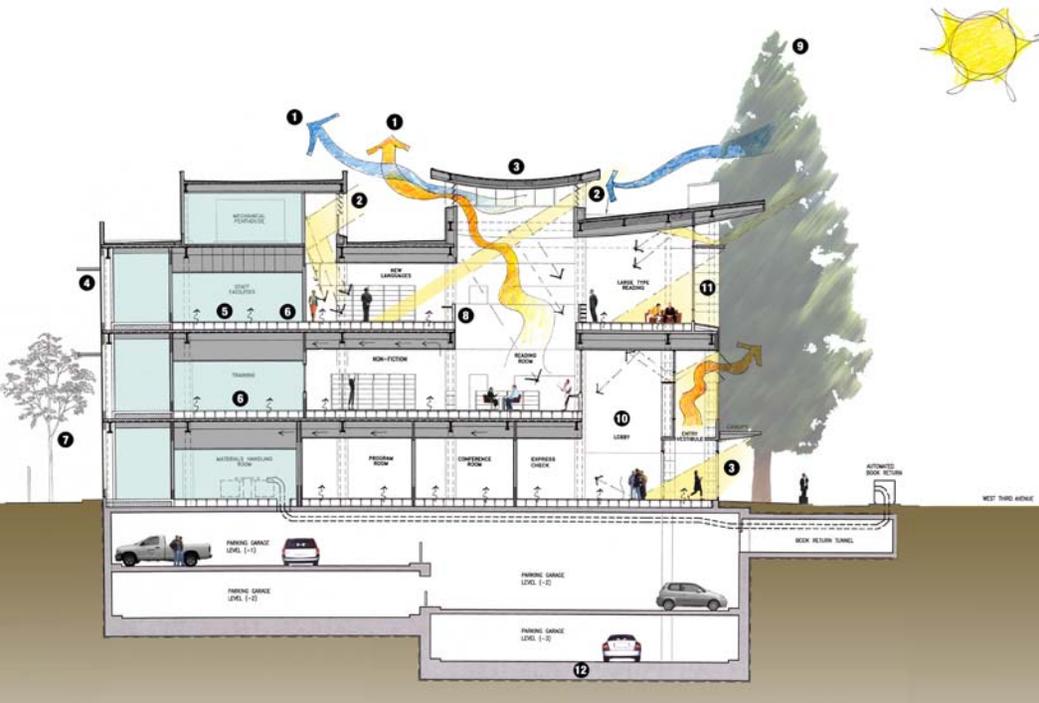
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San Mateo
Public Library

55 WEST 3RD AVENUE
SAN MATEO, CA 94404

SUSTAINABLE PRACTICES An ambitious level of sustainability was required of the new library design as mandated by the San Mateo community. With the ongoing energy crisis in the State of California and the depletion of energy resources worldwide, the community felt a duty to reduce energy and material consumption. The Library will achieve LEED Silver certification, embracing many energy, material and water conservation strategies. The building will be 20%+ more energy efficient than California's already strict Title 24 energy code, and will utilize green power from alternative energy sources, including wind and thermal.



Sustainable Section

- 1 Vents exhaust air through skylight and utilize cooling westerly breezes
- 2 Maximizing controlled daylight (windows & skylights) minimizes the use of artificial light
- 3 Energy Star labeled roof reflects radiant heat
- 4 Smaller windows and window shades on south and west façade reduce heat gain
- 5 High efficiency fans and underfloor air supply reduce energy consumption and improve indoor air quality
- 6 Raised access floor provides for technology and flexibility
- 7 Water-efficient landscaping
- 8 Low Volatile Organic Compound (VOC) emitting materials such as adhesives, carpets, and paints

- 9 Existing redwood trees block western sun and reduce heat gain
- 10 Lobby is open and bright
- 11 High performance, low emissivity glazing reduces heat gain
- 12 Concrete uses high-volume fly ash (a recycled industrial by-product)

Other 'Green' Features:

- Bicycle storage with convenient changing/storage facilities for staff
- Utilization of alternative energy resources
- Ultra low-flow, water-conserving plumbing fixtures
- Recycled content materials and materials that were manufactured regionally

CONSTRUCTION RECYCLING AND LANDFILL DIVERSION

- The new library replaces a 35 year-old solid concrete structure, which was deconstructed and 98% recycled
- Excavated soil was reused in its entirety as landfill cap in the creation of a new City park
- Construction and demolition debris recycling will divert greater than 95% of its materials from the landfill

BUILDING PRODUCTS

- Building products that are high in recycled content such as steel, ceiling tiles, carpet tile backing, and composite woods were used extensively
- Wood products are from certified, sustainably-managed forests, and composite wood products are urea-formaldehyde free
- Low VOC emitting paints that meet "Green Seal" standards are used throughout

WATER CONSERVATION

- Water conservation is achieved by the use of ultra low-flow toilets, waterless urinals and sensor-operated faucets
- Landscape planting is designed with native species to reduce irrigation water demand

DAYLIGHT & LIGHTING

- The library's long east-west orientation maximizes daylighting and minimizes heat gain
- Clerestory windows and large floor openings are provided to bring daylight into the center of the building. 90% of reader seats will receive natural light during daytime hours.
- Solar heat gain is controlled with sunshades and spectrally selective glazing
- Staff workrooms are located near windows for natural daylight
- Window shades are photocell activated for daylight control
- Electric lights are photocell activated to be turned off when natural daylight is adequate, and turned on during cloudy weather and at night
- Task lighting is provided at reader seats

HEATING AND COOLING

- The HVAC system utilizes an underfloor air system that distributes fresh air directly to occupants, increasing comfort and improving air quality. This system also greatly reduces HVAC energy usage.
- High, operable clerestory windows at the center of the building are opened during hot weather to passively ventilate the Library
- The chilled water system, used for air conditioning, shaves peak energy use in the summer by cooling the water at night during off peak hours. A large water tank, located on the roof, stores cooled water for daytime use.
- The temperate local climate allows for utilization of fresh air without heating or cooling – allowing the fans to operate on a low energy-consuming "free cooling mode". Clerestory vents exhaust this air without using fan energy.
- Solar gain and "heat island effect" are reduced through the use of a light-colored Energy Star coated roof that reflects heat absorption
- Provisions have been made for future rooftop mounted photovoltaic solar cells

OTHER

- Bicycle racks and staff showers are provided to encourage bicycle use
- On-site recycling facilitated
- Light pollution reduction is achieved

INNOVATION

- CO2 emissions are reduced by utilizing flyash and slag (industrial byproducts) in the concrete mix instead of cement – reducing cement use by 40%
- Non-toxic water treatment. In a conventional cooling tower, water is treated with strong chemicals (primarily chlorine), which become airborne as the water is cooled by fans in an outdoor enclosure. The Library uses an innovative electromagnetic device that separates and filters the toxins from the water.
- Docent led building tours educate the public about sustainable design practices

