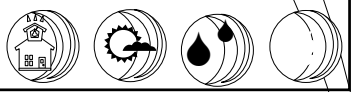
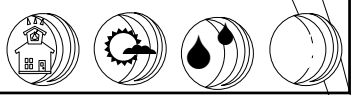
Materials and Finishes

- **Kip Grubb, AIA**
  Director of K-12 Education Design
  Stafford King Wiese Architects
- **Gail de Back, ASID, IIDI**
  Director of Interiors
  Stafford King Wiese Architects



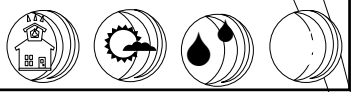
Finishes & Materials
The Fundamentals

- Appropriate first cost
- Durability/life expectancy
- Familiarity to maintenance staff
  - Funding limitations
  - Training & experience
  - Frequency for maintenance
  - Support (i.e., special equipment, storage, etc.)
  - Servicing multiple sites with different maintenance needs



Finishes & Materials
The Fundamentals

- Environmental & legal factors
  - Cal EPA
  - OSHA
  - Unions
- Social & political factors
  - Leadership
  - Legislation
  - Mainstream culture
- Economic factors
  - Affordability relates to cultural acceptance



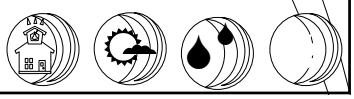
Finishes & Materials
History 1937

Floor

Ceiling

Culture

Wall



Finishes & Materials
History 1937

- Floor
  - Linoleum over concrete, raised floors
- Walls
  - Plaster (painted), wood cabinetry, operable windows (wood), chalk boards (slate), picture & map rails
- Ceiling
  - Wood ceilings, skylights, radiant heat
- Culture

Finishes & Materials
History 1957

Ceiling

Disneyland RESORT

Floor

Wall

Culture

Finishes & Materials
History 1957

- Floor
  - VAT over concrete, hydroponic heating
- Walls
  - Drywall (painted), wood cabinetry, plywood surfaces, operable windows (steel), chalk boards (slate), tack boards
- Ceiling
  - Acoustic tiles, skylights
- Culture

Finishes & Materials
History 1967

Culture

Wall

Floor

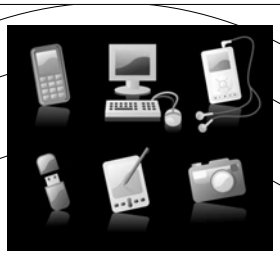
Ceiling

Finishes & Materials
History 1967

- Floor
  - VAT over concrete (VAT became VCT in the 1980s)
- Walls
  - Drywall (painted), plastic laminate casework, operable windows (aluminum & steel), ventilation, chalk & marker boards, tack boards (moving toward tack surfaces)
- Ceiling
  - HVAC, suspended acoustic ceilings
- Culture

Finishes & Materials
History 2007

Culture



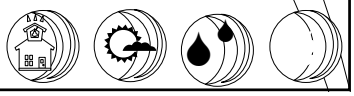
Wall

Floor

Ceiling

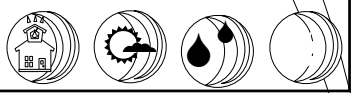
Finishes & Materials
History 2007

- Floor
  - VCT, carpet over concrete
- Walls
  - Drywall (vinyl covered), plastic laminate casework, operable & fixed windows (aluminum) or no windows, marker boards, tack surfaces
- Ceiling
  - HVAC, skylights
- Culture



Finishes & Materials
History Summary

- Basics
  - First cost
  - Durability
  - Maintainability
- Trends
  - Modern production methods
  - Reliance on chemistry
  - Indoor air quality issues & impact
  - Sustainability

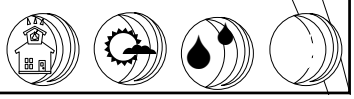


Finishes & Materials
Indoor Air Quality

- What is it?
  - Volatile Organic Compounds (VOC)
  - Off Gassing
  - Dust
  - Microbials
  - Pollen
  - Carbon dioxide
  - Dander
  - Mold Odors
- Why is it important?
- Limitations & impact on common practice

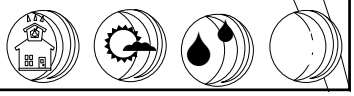
Finishes & Materials
Choices

- District standards
- Funding
- Manufacturers offer a variety of products
- Recycle
- Change daily practices



Finishes & Materials
What's New & Wonderful

- Finishes & materials for schools
  - Life expectancy
  - First cost vs. life cycle cost
  - Materials comparison
- Quality installation & inspection
- Maintenance



Finishes & Materials
Resources

- U.S. Green Building Council – http://www.usgbc.com
- Collaborative for High Performance Schools – http://www.chps.net
- CHPS Low Emitting Materials List – http://www.chps.net/manual/lem_table.htm
- California Environmental Protection Agency – http://www.calepa.ca.gov
- California Air Resources Board – http://www.arb.ca.gov
- Green Building Pages (sustainable building materials database) – http://greenbuildingpages.com
- Coalition for Adequate School Housing (C.A.S.H.) – www.cashnet.org
- Council of Educational Facility Planners International (CEFPI) – http://www.cefpi.org