

24 NO-BRAINERS

For Greening Your Next Project

Here's a checklist of green ideas to consider for your next low- to mid-rise green building, based on the advice of B. Alan Whitson, RPA, a principal with Corporate Realty, Design & Management Institute, Portland, Ore., known nationally for his "It's the Money!" seminars (www.squarefootage.net). As Whitson says, "Good design adds value faster than it adds costs."

- 1. Optimize building orientation.** Get out your compass and maximize your energy savings with daylighting.
- 2. Use sustainable landscaping.** Save on first cost, irrigation, and maintenance. Use vegetation that's right for your climate.
- 3. Slap on an Energy Star or green roof.** Vegetated roofs can cut heating and cooling costs by 5%. Cool or white roofs reduce heat-island effect. On a 95-degree day, a dark roof may hit 180 degrees F; a cool roof could reduce that to 110 degrees F.
- 4. Use moisture-control barriers and air barriers on the exterior.** (For BD+C's webcast on this, go to: www.bdcnetwork.com/university/info/CA6350753.html.)
- 5. Pack in high R-value insulation.** "Heat equals money."
- 6. Design in low-e glazed windows.** Glass manufacturers offer many beautiful energy-saving products. Don't forget to set them in thermally enhanced high-performance frames.
- 7. Install skylights and light shelves.** But watch for glare and heat build-up.
- 8. Provide task ambient lighting, to get the light where occupants need it.** "Most buildings are way overlit," says Whitson. Make sure ambient light fixtures run parallel to the windows to optimize daylighting savings.
- 9. Put in time clocks, occupancy sensors, and dimming ballasts.** Occupancy sensors can produce 70% energy savings for restrooms, 66% for meeting rooms, and 53% for one-person offices.
- 10. Use scotopic enhanced lighting.** Scotopic lighting stimulates the rods in the eye, making pupils contract and increasing acuity. Scotopically enhanced lighting appears slightly bluer, but also brighter, even when light levels are reduced—particularly good for reading printed material.
- 11. Install harmonic canceling transformers in the electrical system.** They reduce the harmonic currents that flow through a transformer to other loads connected to the transformer, reducing energy loss caused by the harmonic currents.
- 12. Think underfloor air distribution.** "UFAD," when integrated thoroughly into the design process, can reduce your first costs and reduce operating costs. It also offers better IAQ.

13. Try variable-speed drives. An EPA study showed that VSDs (which vary the frequency of electricity to the motor to adjust its speed) provided average energy savings of 52%. Using VSDs can reduce total HVAC system cost by utilizing smaller pumps and motors and simpler piping.

14. Control your plug load. Vending machines cost \$350 a year to run; 30% of office computers are left on all night.

15. Specify "UVGI" (ultraviolet germicidal irradiation—required in GSA projects) and electronic air cleaners. Dust and microbial contamination in air ducts can add 20-30% to a building's energy costs. Use common-size air filters, with pre-filters to preserve the life of high-cost MERV or HEPA filters.

16. Check out waterless urinals and low-flow plumbing fixtures. The average employee uses 19.2 gallons of water a day. Green plumbing systems can cut this to 2.5 gallons a day.

17. Look into gray water recovery and UV treatment for drinking water.

18. Deploy a building management system (with sub-metering).

19. Design with movable walls. Most offices "churn" 25-50% of their space every year. Movable walls give you flexibility and reduce costs. For 11,105 linear feet of wall and a 10% churn rate, 10-year ownership for fixed drywall costs \$1,607,000; for movable walls, \$869,000—a savings of \$738,000.

20. Use low-VOC carpet tiles. If you have to replace any of them, you don't have to tear up all the carpeting in a room.

21. Install high-performance ceiling tile. Twenty-nine percent of private office occupants are frequently distracted by outside conversation. "One of the weakest links in privacy for private offices is the ceiling," says Whitson.

22. Use sound masking, overhead or under the raised floor. It makes life in the cubicle a lot more private and livable. Dilbert would hate it.

23. Pay for skinny LCD monitors. Yes, they're more expensive than CRTs, but they use less energy and generate less heat. They also take up a lot less space, and you may actually be able to reduce the size of workstations (without compromising interior space needs).

24. Specify environmentally preferred products. There's no excuse not to go to FloorScore, Greenguard, Green Label Plus, Green Seal, Scientific Certification Systems, and other product rating systems for advice. **BD+C**