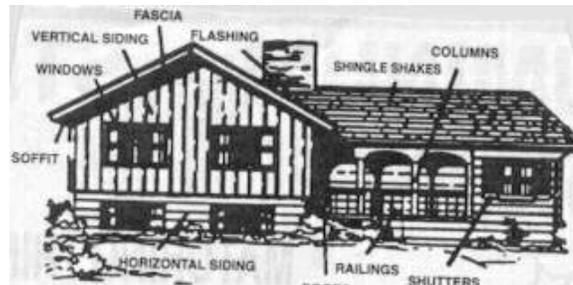


# GREEN BUILDING



# RESOURCE DIRECTORY



By:

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For:

US EPA's Office of Solid Waste and  
Office of Policy Development  
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Washington, DC 20460

September, 2000



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# **Green Building Resource Directory**

Green building is the design, construction, and operation of homes according to resource-efficiency standards for energy, water, building design and materials, as well as indoor air quality standards. As green building becomes more popular, builders, remodelers, contractors, and do-it-yourselfers will have access to a greater number of products and a larger amount of information related to green building. This resource directory is designed to be an easy-to-use tool to help people in the home building trade locate useful green building resources.

Some of the resources listed in this directory were extracted and updated from the US EPA-funded document entitled, “A Guide To Developing Green Builder Programs” (Revised, February, 2000). Additional resources came from research conducted by the NAHB Research Center. Some of the resources may appear in more than one category because they pertain to more than one topic, but they are not wide-reaching enough to be put in the “General Resources” category. *Selection of any resource should not be considered an endorsement by the NAHB Research Center or US EPA.* Lastly, keep in mind that this resource directory was created in September, 2000. With the significant changes occurring on the Internet and in the home building industry products and services markets, location and availability of resources will most likely change as time passes.

## **A. Site Planning**

*Building Greener Neighborhoods: Trees as Part of the Plan*, American Forests and Home Builder Press of NAHB, 1995, \$12. This is a powerful, concise text that clearly outlines what to do, how to do it, and what good lot development saves or adds to the property. Although the focus is on tree preservation, there is a natural extension to other related site development topics: storm water management, placement of infrastructure, passive solar design. 1-800-368-5242

*Storm Water Management: Environmentally Sound Approaches*, Environmental Building News, Vol. 3, No. 5. Sept./Oct., '94. Concise treatment of alternatives to conventional techniques.

*Preservation Specifications for New Construction Sites*, May, 1996 by Isabelle Green and Associates. This contract document is a good example of exacting contract language by a landscape architect setting the key points for protecting site resources during construction. It may be best suited to commercial construction but the overall concepts presented are relevant for residential construction as well.

*Tree Protection During Construction*, by Owen E. Dell. This two page document is a handy bullet list of specific items to consider in tree protection.

Building with Trees – NAHB Workshops: Full-day training sessions offered around the country. Workshops are conducted by Charles A. Stewart, a leading consultant on the

techniques of saving trees during construction. For more information, contact NAHB at (800) 368-5242 or The National Arbor Day Foundation at (402) 474-5655.

### **Websites:**

<http://www.state.in.us/dnr/soilcons/dreamweaver/images/stormwater.pdf> – This site of the Indiana Department of Natural Resources offers information on stormwater and sediment control. You can also call IN DNR at 317-233-3870 and ask for their document entitled, “Erosion Control for the Home Builder,” which is specifically for the home builder regarding causes of erosion and control measures.

<http://www.fabriscap.com> – This site describes and is a supplier for landscape fabrics for a variety of purposes – slope containment, patio/pavement underliners, groundcovers, and weed control. The products offered by this firm are good examples of erosion control materials available to builders.

### **B. Energy Efficiency**

1. EPA Energy Star Home Program - Phone: 1-888-STAR-YES.  
<http://yosemite.epa.gov/appd/eshomes/eshaware.nsf>
2. The Johns Manville Performance Home Program - Phone: 800.654.3103.  
<http://www.jm.com/>
3. Edison Electric Institute (EEI) E-Seal Program - Phone: (202) 508-5557.  
[http://www.eei.org/esg/e\\_seal/](http://www.eei.org/esg/e_seal/)
4. The Comfort Home Program - Phone: (800) 367-7223.  
<http://www.comforhome.com/>
5. The Good Cents Environmental Home Program - Phone: 1 800 653-3445.  
<http://www.GoodCents.com/>

*The Energy Source Directory*, Iris Communications. Lists over 500 products that help improve a home’s energy efficiency from insulation and air barriers to heating and cooling equipment. (541) 484-9353

*The Passive Solar House – Using Solar Design to Heat & Cool Your Home*, James Kachadorian, Chelsea Green Publishing Co., White River Junction, Vermont, 1997. This book provides a comprehensive overview of passive solar design principles. Building siting and orientation, design strategies, heat loss, and solar gain are clearly explained. Methods and worksheets for calculating a building’s energy load are provided in addition to insolation and degree data for major cities in the U. S.

*Residential Windows*, John Carmody, Stephen Selkowitz, Lisa Hescong, W.W. Norton & Company, New York, 1996. Since windows are the largest source of heat loss or gain

in a home, this book completely dedicated to the topic may be of interest to builders and homeowners alike. Energy performance of different glazings, the effect of frame materials, design issues, daylighting, ventilation, and shading are covered and will prove helpful to those making decisions about “which window?” and “where?”

*A Builder’s Guide to Residential HVAC Systems*, NAHB Research Center, Home Builder Press, 1997. This guide provides extensive information about HVAC sizing, design, and equipment selection including focus upon considerations for energy efficiency. <http://www.nahbrc.org>

*Consumers’ Directory of Certified Efficiency Ratings for Residential Heating and Water Heating Equipment*, Gas Appliance Manufacturers Association, Arlington, VA. This directory lists the efficiency ratings of all models of gas furnaces, boilers, and water heaters according to manufacturer. <http://www.gamanet.org/>

*HVAC Systems Evaluations*, Harold R. Cohen, R.S. Means Co., Inc., 1990. Possibly a more thorough discussion of HVAC equipment, components, and design than some might want but lots of good information. Most importantly, explanations are clearly given so that you don’t need to be a mechanical engineer to understand the system design and equipment operation principles that are discussed. Again, good illustrations help a lot. The sections on problem-solving and troubleshooting can be particularly helpful. <http://www.rsmeans.com/>

*Consumer Guide to Home Energy Savings*, 4<sup>th</sup> Edition, 1995, Alex Wilson and John Morrill, American Council for an Energy-Efficient Economy. This book is an excellent resource providing lots of useful information about selecting energy efficient HVAC systems and household appliances. Very practical information about reducing energy needs, making energy-wise and cost-effective decisions regarding purchases, and operating equipment efficiently. <http://www.aceee.org/>

*Directory of Certified Refrigerators and Freezers*, Association of Home Appliance Manufacturers, 1998. Annually published guide that lists the estimated yearly operating costs for all makes and models of refrigerators and freezers. <http://www.aham.org/>

### **Websites:**

<http://www.aceee.org/consumerguide/mostenef.htm> – This website, from the American Council for an Energy-Efficient Economy, offers consumers energy efficiency information on appliances. The lists are based on product directories and manufacturer’s data, and include models that are widely distributed in the United States. The lists are intended to help inform consumers; they do not represent product endorsements.

<http://susdesign.com/sunangle/> - Allows one to find solar angles for all latitudes and longitudes at any time of day. This tool can be very useful to the architect, builder, or home owner in locating and sizing overhangs.

<http://www.efficientwindows.org> – With an increasing number of choices in glazing and frame type, this site sponsored by the Alliance to Save Energy provides helpful information for selecting windows for different climate conditions and orientation.

<http://www.aceee.org/consumerguide/mostenef.htm> - This web site provides useful information about selecting energy efficient HVAC systems and household appliances.

<http://www.fsec.ucf.edu> – The Florida Solar Energy Center has done extensive research and testing regarding a range of issues pertaining to energy efficiency in buildings. Some of the topics covered are: comparisons of different building systems, retrofits to improve energy efficiency, light-colored roofing, and photovoltaics. In addition, the site also offers directories of sources for building products to improve energy efficiency.

<http://www.buildingscience.com/> – This site of the Building Science Corporation offers useful information regarding problems frequently found in buildings and how to avoid them. Moisture control in buildings is emphasized.

<http://www.its-canada.com/reed/index.htm> – The Residential Energy Efficient Database (REED) is a Canadian site that provides extremely useful information regarding many aspects of energy efficient home design and construction. Specific topics addressed include: siting the building to take full advantage of natural features to help reduce energy loads, building layout and design with several house plans of varied size and style, a simplified method for calculating the approximate heat load of the home, and guidelines for HVAC system design and sizing. Since this is a Canadian sponsored site, there is no information regarding design considerations for cooling climates or AC systems.

[http://www.eren.doe.gov/buildings/tools\\_directory/](http://www.eren.doe.gov/buildings/tools_directory/) - This website offers a directory of building energy software tools. Very concise and complete profiles, including strengths and weaknesses, of each software tool, are provided. A standard is REM/Design, a very user-friendly tool particularly for comparing the input of energy upgrades. The Johns Manville Performance House Program includes REMGOLD, a version customized for Johns Manville that includes costs of materials.

<http://www.plumbingworld.com> – This company offers a wide range of plumbing materials and supplies – primarily fixtures and fittings, however, rather than appliances.

<http://www.energyoutlet.com/res/appliances/index.html> – A builder or home owner can search this site for a list of the most energy efficient appliances on the market. Suggestions for important questions to ask when shopping for a major appliance are also offered.

[http://www.eren.doe.gov/buildings/consumer\\_information/](http://www.eren.doe.gov/buildings/consumer_information/) – The Department of Energy site not only provides information about appliance standards and EnergyGuide labels but also about energy saving features of all major appliances.

<http://www.southface.org/home/sfpubs/sfjv298/breathe.html> – The Southface Journal, a publication of the Southface Energy Institute, contains articles on numerous sustainable building topics – including an excellent discussion of methods and materials for sealing HVAC ducts.

<http://www.eren.doe.gov/millionroofs/> – This site provides information about President Clinton’s Million Solar Roofs initiative. A state-by-state listing of incentives for renewable energies may be of particular interest. In addition, information about recent developments in photovoltaic technologies is available.

<http://www.light-link.com/> – A good site for architects, specifiers, or homeowners who want to look for the perfect light fixture from home. This site offers a comprehensive database of fixtures, controls, and bulbs. It can be searched by product type or by company.

<http://www.lightforum.com/library/general/greenerlighting.html> – This site offers many useful tips regarding lighting design considerations specifically for the home.

[http://www.pge.com/003\\_save\\_energy/003a\\_res/index.shtml](http://www.pge.com/003_save_energy/003a_res/index.shtml) – The Pacific Energy Center in San Francisco, CA offers excellent information and hands-on displays to illustrate many principles of energy efficiency. Their website offers informative factsheets on lighting as well as HVAC systems and windows.

<http://www.eeba.org/infocentral/criteria.htm> – On this website exist the Energy Efficient Building Association’s (EEBA) goals, objectives and criteria for energy and resource efficient buildings. They provide guidance for design, construction and comprehensive rehabilitation (gut-rehab) of low-rise residential and small commercial buildings less than 20,000 square feet (1,900 m<sup>2</sup>) floor area.

### **C. Resource Efficiency**

#### **Resources:**

*Cost-Effective Home Building: A Design and Construction Handbook.* NAHB Research Center, 1994. This publication is a comprehensive reference for efficient framing and design. Engineering tables are included as appendices. <http://www.nahbrc.org>

*Affordable by Design.* Alice Horrigan. E Magazine, July/August, 1997. A concise discussion and interesting examples of efficient design.

*Residential Construction Waste Management: A Builders Field Guide,* NAHB Research Center, 1997. This publication includes builder case studies of efficient framing and related cost savings. <http://www.nahbrc.org>

The following references are particularly useful to builders and designers in that they most directly answer the questions that builders will have when considering a new product.

- What are the physical characteristics and expected performance of the material?
- Why should I use it?
- Where can I get it?
- How much does it cost?

*Environmental Building News Product Catalog*, joint publication of E Build, Inc. and What's Working, 1997/98, \$59. This catalog provides environmental, cost, and availability information for over 70 building materials. The catalog is set up in a 3-ring binder format for easy expansion of the catalog. As with the well-known Sweet's catalog, product literature from the manufacturer is provided but added is the editors' environmental profile of the product based on their resource-efficiency material selection criteria. An environmental overview for each major building material category (following CSI classification) starts each section of the catalog. <http://www.buildingreen.com/>

*Resources for Environmental Design Index (REDI)*, Bruce Sullivan (ed.), Iris Communications, Inc., 1997, \$25 (hard copy published annually)/free (internet [*oikos.com*]updated bi-monthly). REDI is a database of recycled-content and resource-efficient building materials. This is one of two commercially-available databases that is national in scope and kept current. Basic information on everything except product cost is contained in the product descriptions of over 1,800 companies. Search capabilities, links to company web sites, and frequent updates make the internet version of REDI more useful than the printed one. (541) 484-9353

*Green Building Resource Guide*, John Hermannsson AIA Architect, Taunton Press, 1997, \$37.95. The *Green Building Resource Guide* lists over 600 building materials. Names and addresses of suppliers are given as well as a brief description of the product. Cost information is provided on a relative basis as compared to a similar conventional product. The *Guide* is also available on CD-ROM. <http://www.e-architect.com/>

*Alternative Framing Materials in Residential Construction: Three Case Studies*, NAHB Research Center, \$25. Labor and material cost analysis for structural insulated panels, light-gauge steel, and welded-wire panels (shotcrete). Illustrated. <http://www.nahbrc.org>

*Guide to Resource Efficient Building Elements, 6<sup>th</sup> Edition*, Center for Resourceful Building Technology. This book provides a listing of resource efficient building materials and systems according to product category. Names of suppliers are given with addresses and phone numbers. Applications of the material are described and pertinent information such as fire rating, R-value, color, and size is given. Information on cost is not provided. <http://www.montana.com/CRBT/>

*The Sourcebook for Sustainable Design*, Andrew St. John, Boston Society of Architects, Boston, MA. Lists over 100 recycled products used in construction applications. <http://www.architects.org/>

**Information regarding resource efficient building materials may also be available through a number of local or state agencies. Waste management boards, departments of environmental conservation, trade schools or schools of forestry, and local material suppliers can be good sources of information. This last resource, although not very practical for builders, does represent an early effort to assess the total environmental footprint of a limited number of building materials.**

*Environmental Resource Guide(ERG)*, Joseph Demkin (ed.), American Institute of Architects, John Wiley & Sons, 1996 (published annually), \$150. The American Institute of Architects has produced very detailed environmental evaluations of several common building materials in the ERG. The 3-ring binder format is designed for updates and additional evaluations. The reports on individual building materials are long and involved—in general, the ERG is not very builder-friendly and the number of building materials covered is very limited. <http://www.e-architect.com/>

### **Websites:**

<http://www.crest.org/discussion/greenbuilding/current/>– Center for Renewable Energy and Sustainable Technology – This site contains a database of a wide variety of topics related to green building issues. The online discussion group is an informal exchange of ideas and subject matter runs the gamut. Become a participating member or just browse the archive. Since there is no set format for discussion, the archive is organized by date only so, you may need to hunt for topics of special interest to you.

<http://www.co.san-diego.ca.us/cnty/cntydepts/general/cob/policy/F-50.html> – This site contains a copy of the policy adopted by San Diego County to encourage resource-efficient construction and renovation practices. Although the voluntary guidelines are fairly general in nature, they are an example of important steps that must be taken by local jurisdictions to facilitate the implementation of sustainable building practices.

<http://fscus.org/news/index.html> – The Forest Stewardship Council U.S. maintains a database of lumber suppliers and product manufacturers using certified wood products that meet the council's forest management criteria.

<http://www.crbt.org/> – The Center for Resourceful Building Technology. The site primarily gives information about CRBT but the long list of practical research they have done may give builders and home owners reason to search them out further.

<http://www.umass.edu/bmatwt/> – This site provides information on numerous topics related to resource efficient construction. See the "feature articles" by Paul Fisette which are particularly informative and helpful.

<http://www.hok.com/sustainabledesign/> – HOK, a leading commercial architecture firm, has completed numerous projects incorporating sustainable or green building principles. While their database is more oriented to commercial construction, it does contain information on building materials including concrete, wood, insulation, roofing, flooring, and paints.

#### **D. Indoor Air Quality**

##### **Resources:**

*Creating A Healthy Household: The ultimate guide for healthier, safer, less-toxic living*, Lynn Marie Bowe, The Healthy House Institute, 2000, \$23.95. <http://www.hhinst.com/booksvideos.html>. This book covers everything inside the living space and contains all the information anyone needs to make their home a healthier place to live.

*Understanding Ventilation*, John Bower, The Healthy House Institute, 1995, \$32. This text provides a thorough, easy-to-understand overview of indoor air quality considerations for the design and operation of buildings. <http://www.hhinst.com/booksvideos.html>

*American Journal of Respiratory and Critical Care Medicine Volume 156*, No. 3, [September, 1997] Part 2 Supplement: American Thoracic Society Workshop Report - Achieving Healthy Indoor Air):

*Introduction to Indoor Air Quality: A Reference Manual*, US Environmental Protection Agency, Office of Air and Radiation, Indoor Air Division, 1991, EPA/400/3-91/003. <http://www.epa.gov>

*Environmental Building News Product Catalog*, a publication of E Build, Inc., Brattleboro, VT. Indoor air quality considerations for building materials are included under the category, Building Operations. <http://www.buildinggreen.com/>

*Building Materials for the Environmentally Hypersensitive*, Canada Mortgage and Housing Corporation, 1995, \$25. This is a directory of building materials commonly used in cold climates based on their contribution to indoor air quality for environmentally-sensitive individuals. The analysis of each building material is based on published reports and the practical, lay experiences of hyper-sensitive individuals. <http://www.cmhc.ca/>

*Appendix I – A Discussion of Air Filtration for Residential Application*, ASHRAE 62.2P – Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Building. This new standard is forthcoming and Appendix I is a good summary of filter media. <http://www.ashrae.org/>

*Model Standards and Techniques for Control of Radon in New Residential Buildings* (15 pages). USEPA 402.R-94-009, March, 1994. A concise summary of the radon-residential features for homes. <http://www.epa.gov>

### **Websites:**

<http://www.nrg-builder.com/> – Building Envelope Science and Technology. In addition to providing information on a wide range of green building topics, the site gives a good overview of IAQ concerns and ways to mitigate potential problems in the home.

<http://www.epa.gov/iaq/homes.html> – The Environmental Protection Agency site contains information on many indoor air quality topics – specific contaminants and pollutants, exposure, risk, and mitigation.

<http://www.carpet-rug.com/> – The environmental section of the website provides information about the CRI IAQ labeling program.

<http://www.its-canada.com/reed/iaq/index.htm> – This site, also discussed in previous sections, provides many IAQ and related topics – sources, pollutants, controls, ventilation, and filtration.

<http://www.cmhc-schl.gc.ca/cmhc.html> – Use the site map to navigate to excellent Healthy Housing fact sheets organized by room – kitchen, bath, garage, etc.

<http://www.montana.edu/wwwcxair/> - The Healthy Indoor Air for America's Homes Program was developed to provide basic but comprehensive information to consumers regarding indoor air quality (IAQ) in their homes. The goal of the Program is to educate consumers about sources, health risks, and control measures related to common residential indoor air problems and to help consumers reduce their health risks from these problems.

## **E. Waste Management**

### **Resources:**

*Residential Construction Waste Management: A Builder's Field Guide*, NAHB Research Center, January, 1997. <http://www.nahbrc.org>

*Waste Management: A Remodeler's Guide*, NAHB Research Center, July, 1998. <http://www.nahbrc.org>

*Residential Construction Waste Management: A Coordinator's Guide for Conducting Local Workshops*, NAHB Research Center, July, 1998. <http://www.nahbrc.org>

*The Regulation of Solid and Hazardous Wastes: A Builder's Guide*, NAHB, March, 1994.

*Build America Beautiful program: NAHB, (800) 368-5242, ext. 484.*

**Websites:**

<http://www.nahbrc.org> – All of the Research Center materials can be found under the “Publications” link and the topic “Construction Waste Management.” The builder’s guide, remodeler’s guide and on-site grinding documents can be downloaded off the website for free as pdf documents. The .pdf downloads are under “Builder Programs” and the “Green Building” sections.

<http://www.oikos.com/library/waste/index.html> – The site provides useful information about types and quantities of construction waste and disposal costs in the construction industry. Also, available are publications and brochures that can be helpful to builders in developing jobsite waste management plans.

<http://www.ciwmb.ca.gov/> – Sponsored by the California Integrated Waste Management Board, this site provides lots of information regarding waste reduction and recycling. A searchable database locates published materials on specific topics.

<http://www.recycle.net/recycle/build/index.html> – This site contains a Recyclers’ Exchange for used building materials.

<http://www.ubma.org/> – The Used Building Materials Association is the North American organization representing this industry. Good resource on salvaged building materials.

<http://www.gypsum.org/topical.html#residential> – The Gypsum Association’s website provides builders recommendations on the residential job-site disposal of new construction waste gypsum board.

<http://www.p2pays.org/dmrm/dmrm.asp> – This site contains a directory of markets for recyclable materials. By clicking on the “Construction and Demolition Materials” link, builders and remodelers can identify sources for their recyclable goods. Note that most of the sites listed are in North Carolina.

**F. Water Efficiency - Indoor Use**

**Resources:**

*“An Energy-Saving Product That’s Actually Convenient?”* *Energy Design Update*, July, 1997, pg. 8. This article reviews one hot water recirculation system.

*“Dishing Out Dollars,”* *Consumer Reports*, March, 1998, pg. 37. A comprehensive review of energy and water-efficient dishwashers.

A web site containing information on water-saving devices for the home.  
<http://www.greenhome.com/products/prodpagekit-wsb.html>

The Georgia Water Wise Council provides tips to help you and your plants survive outdoor watering restrictions and bans.

<http://www.griffin.peachnet.edu/caes/drought/watertips1.htm>

### **Websites:**

<http://www.plumbingworld.com> – This company offers plumbing materials and supplies of all kinds for both inside the home and out. Very good for hard-to-find parts and supplies. Also, offers a line of drip irrigation materials.

<http://www.consumerreports.org> – Consumer Reports can now be obtained on-line for a fee. Reports on appliances are updated on a regular basis to reflect new products.

<http://www.waterwiser.org> – This site is a good jumping off point for accessing information on all aspects of water conservation. Sites pertaining to water conserving appliances, drip irrigation, xeriscape, landscaping, and community water conservation programs are listed by category.

<http://water.usgs.gov/> – The U.S. Geological Survey provides extensive information and data regarding state and regional water use and water quality. In addition to numerous fact sheets, information about the condition of local streams and waterways is available.

## **G. Water Efficiency - Outdoor Use**

### **Resources:**

*The Resource Guide to Sustainable Landscapes and Gardens*, Environmental Resources, Inc., Salt Lake City, Utah. Lists over 1,100 environmentally responsible landscaping materials.

*Guide to Resource Efficient Building Elements, 6<sup>th</sup> Edition*, Center for Resourceful Building Technology. This book provides a listing of resource efficient building materials and systems according to product category. Names of suppliers are given with addresses and phone numbers. A section is specifically devoted to Landscaping materials. Information on cost is not provided. <http://www.montana.com/CRBT/>

### **Websites:**

<http://www.plumbingworld.com> – This company offers plumbing materials and supplies of all kinds for both inside the home and out. Very good for hard-to-find parts and supplies. Also, offers a line of drip irrigation materials.

<http://www.floridaplants.com/> – Although oriented to Florida as the name implies, this site offers numerous books on all topics from draught tolerant plants and grasses to landscape design to pest management. In addition to printed publications, there is good

information about specific trees, plants, and grasses – soil, water, and light conditions as well as disease control. A useful site whether you live in Florida or not.

<http://cru43.cahe.wsu.edu/> – Sponsored by the Washington State Cooperative Extension, this site provides solid information about all types vegetation particularly well-suited to climates within the state. Information regarding drip irrigation, organic fertilizers and pest control, and other topics pertinent to reducing water use for the lawn and garden is available. Similar sites can be found for most states across the country.

<http://waterwiser.org> – This site is a good jumping off point for accessing information on all aspects of water conservation. Sites pertaining to water conserving appliances, drip irrigation, xeriscape, landscaping, and community water conservation programs are listed by category.

<http://water.usgs.gov> – The U.S. Geological Survey provides extensive information and data regarding state and regional water use and water quality. In addition to numerous fact sheets, information about the condition of local streams and waterways is available.

<http://ag.arizona.edu/pubs/water/az1052/harvest.html> – This web site contains basic information on rainwater catchment techniques, primarily in the Southwestern US.

<http://www.mha-net.org/msb/html/papers-n/palo01/wastewa.htm> – This site contains a case study on “Reusing Treated Wastewater in Domestic Housing: the Toronto Healthy House project.”

## **H. Homeowner Opportunities**

### **Resources:**

*Environmental Building News Product Catalog*, joint publication of E Build, Inc. and What’s Working, 1997/98, \$59. This catalog provides environmental, cost, and availability information for over 70 building materials. The catalog is set up in a 3-ring binder format for easy growth of the catalog. As with the well-known Sweet’s catalog, product literature from the manufacturer is provided but added is the editors’ environmental profile of the product base on their green material selection criteria. An environmental overview for each major building material category (following CSI classification) starts each section of the catalog. <http://www.buildinggreen.com/>

*Green Building Resource Guide*, John Hermannsson AIA Architect, Taunton Press, 1997, \$37.95. The *Green Building Resource Guide* lists over 600 building materials. Names and addresses of suppliers are given as well as a brief description of the product. Cost information is provided on a relative basis as compared to a similar conventional product. The *Guide* is also available on CD-ROM. <http://www.e-architect.com/>

*Consumer Guide to Energy Savings*, Alex Wilson and John Morrill, American Council for Energy Efficient Economy, 1998. This book provides excellent tips on ways to

conserve energy around the home. Topics regarding tightening up your house, heating and cooling your home more efficiently, lighting options, cooking, and food storage are included. Options ranging from simple things the homeowner can do at no cost to replacement of inefficient equipment is discussed. <http://www.aceee.org>

*The Green Pages: The Contract Interior Designers' Guide to Environmentally Responsible Products and Materials*, Andrew Funston, Kim Plaskon Nadel, Jory Prober, New York, NY. Listings of environmentally responsible building materials from 536 manufacturers. Includes information on flooring, furnishings, fabrics, paints, appliances, lighting, and more. (212) 779-3365

*The Borrowers' Guide to Financing Solar Energy Systems, (DOE/GO-10098-660)*, Dr. Patrina Eiffert, National Renewable Energy Laboratory, Golden, CO, September, 1998.

### **Websites:**

<http://www.floridaplants.com/> – Although oriented to Florida as the name implies, this site offers numerous books on all topics from draught tolerant plants and grasses to landscape design to pest management. In addition to printed publications, there is good information about specific trees, plants, and grasses – soil, water, and light conditions as well as disease control. A useful site whether you live in Florida or not.

<http://ctr.uvm.edu/ext/ag/links.htm> – This site of the University of Vermont Extension Center offers comprehensive information about lawn and garden pests and diseases. Causes, symptoms, and control methods are given about specific species and varieties. There is also good information regarding Integrated Pest Management (IPM).

<http://www.gvrd.bc.ca/services/garbage/jobsite/index.html> – Sponsored by the city of Vancouver, British Columbia, this site provides information on waste reduction with sections specifically addressing opportunities for jobsite recycling and the homeowner.

<http://hammock.ifas.ufl.edu/sustain/consum.html> – This University of Florida web site describes a homeowners' manual entitled Eco Home with focus areas including energy conservation, household waste management, and product selection.

<http://www.greenmoney.com/pub/greenpub.htm> – This site gives a very broad range of resources on green consumer publications. While many of the resources can certainly not be characterized as mainstream, readers can do their own sorting through the material.

<http://www.emagazine.com/> - This is the web site for the Environmental Magazine. This, too, is a very broad-ranging resource that does include access to information on resource-efficient home operation systems and products.

<http://www.realgoods.com/index.cfm> – The Real Goods catalog store offers a variety of resource-efficient home products ranging from composting bins to fluorescent lighting to bio-degradable cleaning agents.

<http://www.lrc.rpi.edu/> - The National Lighting Product Information Program (NLPIP) is an objective source of manufacturer-specific performance information on efficient lighting products. Their databases of performance data for electronic ballasts and compact fluorescent lamps have been updated with new products. They have also added a section on alternatives to halogen torchieres.

<http://www.eren.doe.gov/consumerinfo/refbriefs/ee8.html> – Minimum standards of energy efficiency for many major appliances were established by the U.S. Congress in the National Appliance Energy Conservation Act (NAECA) of 1987, and in the National Appliance Energy Conservation Amendments of 1988. This website contains a list of residential appliances and associated standards and the date(s) they went or will go into effect. Only standards for products that are likely to be used in a home are listed here.

## **I. Business Operations**

### **Resources:**

*Environmental Building News Product Catalog*, joint publication of E Build, Inc. and What's Working, 1997/98, \$59. This catalog provides environmental, cost, and availability information for over 70 building materials. The catalog is set up in a 3-ring binder format for easy growth of the catalog. As with the well-known Sweet's catalog, product literature from the manufacturer is provided but added is the editors environmental profile of the product base on their green material selection criteria. An environmental overview for each major building material category (following CSI classification) starts each section of the catalog. <http://www.buildinggreen.com/>

*Green Building Resource Guide*, John Hermannsson AIA Architect, Taunton Press, 1997, \$37.95. The *Green Building Resource Guide* lists over 600 building materials. Names and addresses of suppliers are given as well as a brief description of the product. Cost information is provided on a relative basis as compared to a similar conventional product. The *Guide* is also available on CD-ROM.

*Consumer Guide to Energy Savings*, Alex Wilson and John Morrill, American Council for Energy Efficient Economy, 1998. This book provides excellent tips on ways to conserve energy around the home. Topics regarding tightening up your house, heating and cooling your home more efficiently, lighting options, cooking, and food storage are included. Options ranging from simple things the home owner can do at no cost to replacement of inefficient equipment are discussed.

### **Websites:**

<http://www.epa.gov/wastewise/other.htm> – This is the EPA Waste Wi\$e web site with all the information companies need to participate in this voluntary program. Or call 800 EPA-WISE (372-9473).

<http://www.gvrd.bc.ca/services/garbage/rechome/index.html> – Sponsored by the city of Vancouver, British Columbia, this site provides information on waste reduction at home.

<http://yosemite.epa.gov/appd/eshomes/eshaware.nsf> – This is the EPA website for the voluntary Energy Star Homes program. Links at this site show how a builder can become a program participant.

<http://www.epa.gov/greenlights.html/> - This is the EPA website for the Energy Star Buildings voluntary program. Although geared for large office buildings, participation is based on per cent savings and even smaller building firms can participate.

<http://www.ISO.ch/9000e/9k14ke.htm> - This is the official website of International Organization for Standardization information on the ISO 9000 quality assurance standards and the ISO 14000 set of environmental management system standards.

## **J. Land Development**

### **Resources:**

The following case studies provide concrete examples of how others have approached and resolved a variety of existing conditions within the framework of environmentally-sensitive land development.

*Land Development* magazine, NAHB – Land Development Services and Environmental Policy Departments. Every issue of this quarterly publication contains articles on resource-efficient land development. For example, the winter, 1999, issue has articles on Streamlining the Development Approval Process, Smart Growth Policies, and Brownfields Development. (800) 368-5242

*Affordable Land Development - A Guide for Local Government and Developers, Vol. 1*, prepared by NAHB Research Center, Upper Marlboro, MD. <http://www.nahbrc.org>

*Proposed Model Land Development Standards and Accompanying Model State Enabling Legislation-1993* edition U.S. Dept. of HUD-1413 PDR, August, 1993

*Better Site Design: A Handbook for Changing Development Rules in Your Community*, Center for Watershed Protection, August 1998. This is an excellent resource; complete, practical and to the point.

*Site Planning and Community Design for Great Neighborhoods*, Frederick D. Jarvis, Home Builder Press, National Association of Home Builders, Washington, D.C.

*Lessons from the Field* by the Northeast Midwest Institute, With profiles of 20 brownfield projects across the country, the 230-page book also identifies “lesson learned,” including innovative financing strategies, regulatory mechanisms, institutional arrangements, cost-effective technologies, and public-private partnerships.

The following references are broader in nature. Yet, they all provide clear and thorough discussions of “green” issues related to land development. They would be of interest to government and regulatory officials as well as builders and developers.

*Land Development, Eighth Edition*, D. Linda Kone, Home Builder Press, 1994. The book provides a thorough overview of the numerous issues to be considered when planning and implementing a large development project. Everything from market analysis to assessment of the physical features of the site to legal ordinances and procedures is covered. The book is written more from the conventional framework of cost effectiveness and feasibility rather than environmental or green building concerns.

*Green Development*, Rocky Mountain Institute, John Wiley and Sons, Inc., 1998. This book offers a comprehensive discussion of every stage of the development process. A detailed discussion with examples regarding market research, financing, site planning, building design, construction and maintenance, as well as the approval process. The project profiles, contacts, and additional references can be particularly useful.

*Conservation Design for Subdivisions*, Randall G. Arendt, Island Press, Washington, D. C., 1996. This book is written with the developer in mind. The primary focus is upon how to preserve open space and special features of a property without reducing overall density and profitability. Examples of several different sites illustrate contrast between conventional and conservation design. Possible house designs for narrow lots are also included. A good deal of attention is given to regulatory improvements and local planning processes.

*Landscape Ecology Principles in Landscape Architecture and Land-Use Planning*, Wenche E Dramstad, James D. Olson, Richard T. T. Forman, Island Press, 1996. A concise, well-illustrated description of four basic principles of landscape design - patches, boundaries, corridors, and mosaics. A good introduction for planning officials and developers.

### **Websites:**

<http://www.smartgrowth.org> – Sponsored by EPA’s Urban and Economic Development Division this site has a wide variety of resources, profiles and case studies on land development and special topics such as brownfields.

<http://www.uli.org/indexJS.htm> – This site of the Urban Land Institute may be of particular interest to property developers in that it offers access to a discussion group whereby one can exchange ideas and questions with others working in the field. Also offers a good list of books, publications, and workshops specifically dealing with the concerns of larger property development.

<http://www.plannersweb.com> – This site covers many topics pertaining to planning and development issues – zoning, transportation, controlling sprawl, conservation subdivisions. Both developers and community officials may find this site useful.

<http://www.co.san-diego.ca.us/cnty/cntydepts/general/cob/policy/F-50.html> – This site contains a copy of the policy adopted by San Diego County to encourage resource-efficient construction and renovation practices. Although the voluntary guidelines are fairly general in nature, they are an example of important steps that must be taken by local jurisdictions to facilitate the implementation of sustainable building practices.

<http://www.nemw.org> – The Northeast-Midwest Institute has resources including case studies on brownfields redevelopment.

## **K. General Resources**

NAHB Research Center TOOL BASE Services – This is a suite of information resources including a CD product directory, a quarterly newsletter (TOOL BASE News) and the TOOL BASE Hotline (800 898-2842 or on the web: [toolbase@nahbrc.org](mailto:toolbase@nahbrc.org)). All of the services can be accessed through the TOOL BASE Hotline, staffed 11 hours every business day by a building research professional. Although this resource is not limited to environmental building issues and information, green building is one of the major areas of coverage.

For commercial and residential renovation projects, the Environmental Home Database provides product information to help you make appropriate design choices. The Environmental Home Database is stored on five disks and costs \$12.50, including shipping and handling. The Database Includes More Than 8,000 Entries.

<http://www.lcra.org/enviro/envhome.html>

*Building Green in a Black and White World*, David Johnston, Home Builder Press, 1999, \$45. Shows the reader how to begin building green today. Learn how green substitutes can improve your bottom line and offer your home buyers greater quality and value.

<http://www.greenbuilding.com/>

Environmental Building News (EBN)– Started in 1992 as a bi-monthly newsletter, EBN has grown to include the EBN Product Catalog, the E Build Library (on CD), an on-line green building discussion list, and a new CD resource, The Green Building Advisor. All are comprehensive and practical resources for resource-efficient construction. Their target audience includes both residential and commercial architects, building scientists, and builders. <http://www.buildinggreen.com/>

Iris Communications, Inc. – Best accessed through their web site, Iris Communications specializes in the *how* of green building. Resources include a library/bookstore, green building product data base, and co-sponsorship of the internet green building discussion list. All resources are updated frequently and kept current. <http://www.oikos.com> or (541) 484-9353

*Environmental Design & Construction* – A newcomer to the green building industry, this magazine is a bi-monthly publication covering both residential and commercial construction. While the EBN publication is a news-only, text-focused resource, this publication is a healthy complement with product advertising and full-color layout. <http://www.edcmag.com> or (248) 362-3700

<http://ecep.louisiana.edu/ecep/ecep.htm> - The Louisiana Department of Natural Resources and its contractor, the University of Southwestern Louisiana, are pleased to provide these Energy Curriculum Guides as part of the Energy Conservation Enhancement Project. There are numerous activity guides that are designed to educate high school students on the concepts of energy efficiency and conservation.

[www.greenbuilder.com](http://www.greenbuilder.com) - Sustainable Building Sources – This is a strictly internet resource for information on green building. Although some of the information might be considered “fringe” by the mainstream builder, there are many useful resources to consider, such as a first-of-its-kind green building professional directory.

<http://www.sustainable.doe.gov/index.html> – Sponsored by the Department of Energy this site provides information, resources, and links regarding a number of green building topics including: resource-efficient materials, indoor air quality, waste management, water efficiency, codes and ordinances. Case studies of successful projects around the country offer examples of how communities have implemented various strategies.

<http://www.SustainableABC.Com/> - This website is a set of links geared toward ecological and sustainable building techniques and products.

[http://www.ci.boulder.co.us/environmentalaffairs/residential/gp\\_nh\\_options.htm](http://www.ci.boulder.co.us/environmentalaffairs/residential/gp_nh_options.htm) – This website provides information on the Boulder, CO Green Points Program for new homes and large additions.

<http://www.ci.portland.or.us/energy/guidelines.htm> – The City of Portland, OR has a Green Building Initiative. This website contains the design and construction guidelines one can incorporate into the home building planning process. This resource does not contain specific goals to achieve, rather, it is useful for anyone wishing to develop a systematic process of incorporating green building concepts into their building process.

<http://floridagreenbuilding.org/standards.htm> - This website contains a link to the Draft Florida Green Building Coalition Green Home Designation Standard. The Standard has a checklist that builders can use to identify potential green building options.

<http://www.gbapgh.org/index.html> – Click on the “Click here to view GBA's newsletter online” link from this website to view The Cornerstone, which is the Green Building Alliance’s newsletter.

<http://www.aiacolorado.org/SDRG/home.htm> – The Denver AIA Committee on the Environment produced the Sustainable Design Resource Guide. The guide, which can be accessed from this website, is organized according to the sixteen divisions of the Construction Specifications Institute. Each division is prefaced by an introduction that outlines specific concerns related to the products and systems in that division. This is followed by product listings and information designed to help you purchase or specify sustainable building products.

<http://www.forestdirectory.com/> - This website has numerous links to sites that have information on forest products industry, forest products, wood science and technology, wood engineering, forest products marketing, wood industry associations, wood industry consultants, wood industry data sources, and wood products-based research institutions.

<http://www.nwbuildnet.com/nwbn/buildersenvironmentalnews.html> - This site's Environmental & Sustainable Building Technology News provides information on current developments, legislative updates, and EPA and DOE environmental news.

<http://www.reddawn.com/> - This green architecture website contains material reviews, articles, book reviews, and a FAQ list.

<http://www.ci.austin.tx.us/greenbuilder/> - The City of Austin, TX had the first official U.S. green building program. This website contains information about the program, including its Green Home Checklist (<http://www.ci.austin.tx.us/greenbuilder/checklist.htm>).

<http://www.bfrl.nist.gov/oae/software/bees.html> – The National Institute of Standards and Technology (NIST) developed the Building for Environmental and Economic Sustainability (BEES) software, which has economic and environmental performance data for 65 building products. The software can be downloaded from the website or ordered by calling (202) 260-1023.

<http://www.umich.edu/~nppcpub/resources/compendia/architecture.html#bmat> – This website has links to the University of Michigan National Pollution Prevention Center for Higher Education's papers on sustainable architecture. Some of the papers include the Sustainable Design Module, which may be used in a coursepack or as supplemental reading for architecture courses at the undergraduate and graduate levels; the Sustainable Building Materials Module, which examines the source of common building materials and the environmental costs of their production; and the Recycling and Reuse Module, which addresses the problems of scarcity, costly extraction, and increased regulatory provisions associated with unsustainable natural resource consumption and waste disposal.

<http://caddet-ee.org/product.htm> - The majority of this site is devoted to energy efficiency in commercial buildings. However, there are some resources pertaining to residential energy efficiency. The Centre for the Analysis and Dissemination of Demonstrated Energy Technologies (CADDET) has a database containing information on over 1,600

international, energy-saving demonstration projects. In addition, it has links to publications related to energy efficiency. For instance, two publications include the Energy Efficiency Retrofitting of Residential Buildings, and Advanced Houses of the World.

<http://www.greendesign.net/gbrc/index.html> – This website contains the Green Building Resource Center, which has more than 600 green building resources.