



Finding Common Ground *Universal and Sustainable Design*

By Valerie Fletcher

I have found myself envious of sustainable design. Many of the most talented design students I've encountered proudly label themselves green designers. I've talked with developers who brag about their plans to integrate sustainable design into large, multi-use urban projects because it's the right thing to do even if no corporate tenant has expressed an interest. And those seasoned practitioners who set the professional agenda integrate sustainability into issues as diverse as smart growth and automobile design. The sustainable movement has media champions like Metropolis magazine -- every issue filled with stories about model projects and ads for new green products. With growing numbers of devotees, sustainable design is building good outcome research and cost/benefit analysis that supports policy and influences client choices.

We've made progress too. More people and organizations across the world are finding their way to universal design through the 'aha!' moments in which they are pleased to find that there is a name for design that anticipates human diversity. The sophistication of practice and appetite among

See Sustainable Design, page 12



Flashing lights alert resident to the doorbell activation of the doorbell.

Lighting the Way for Safety Accessible Lighting Makes a Difference

What good is a smoke detector if the residents of the house can't hear its signal? A sophisticated new lighting system created for a nearly 20-year-old home added comfort and essential safety features for its residents.

In the remodeling of a 3.5-level 4,500 sq. ft. home, located in a suburban area of Washington, DC, architect Rob Nichols of Nichols Design Associates Inc. crafted a design solution which incorporated flashing lights into everyday light fixtures. The signals alert the residents with hearing impairments of a telephone or doorbell ringing as well as the activation of the smoke detectors and security alarms. "Clearly, a safe, comfortable, convenient and communicative accessible light system was the design solution for the project," according to Nichols.

The project included a complete remodeling of the kitchen, as well as installation of an electrical system for new and exist-

See Accessible Lighting, page 2

CONTENTS

- 1 Finding Common Ground
- 1 Lighting the Way for Safety
- 4 The Impact of 'Grandfathering' Previous ADAAG Compliance
- 5 Ostroff Honored with International Award

News from ICTA

- 6 New International Accessibility Standard Underway

RERC on UD at Buffalo

- 7 Defining Universal Design

Center for Universal Design

- 8 Center for Universal Design Joins UDN Team
- 8 UD in Housing and the Delaware Assistive Technology Initiative
- 9 Habitat for Humanity Housing Study
- 9 Technical Assistance/Dissemination Service News
- 10 CUD Announces Three New Releases

- Reg/Leg Watch.....3
- New Media.....11
- New Products.....13
- Home for the Next 50 Years....15
- Design Tip.....15
- Calendar.....16

Accessible Lighting, *from page 1*

ing accessible light fixtures throughout the living, breakfast and dining areas, foyer and main staircase.

In addition to new counter tops, cabinets, light fixtures and appliances, the new kitchen features accessible signals for both the doorbell and telephone. A Notification Control Center (NCC) interconnects the telephone, doorbell, smoke detectors, home security, with a whole house visual signaling relay. "This NCC meets the needs of hearing-impaired residents and enables them to live more comfortably in a safe, accessible, comfortable home," reports Nichols.

The whole house signaling relay connects receptacles and light fixtures on all the levels to the NCC. There is also a sensor on the upstairs patio door which triggers a visual signal whenever the door is opened without anyone ringing a doorbell.

Approximately 30 percent of the existing lighting fixtures were replaced to provide flashing signals for the doorbell and telephone. For example, when a resident is in the kitchen and a visitor presses the doorbell, the lights beneath the upper cabinets flash twice.

A different set of lights is used for the alarm signals. The alarm lights use a Xenon flash tube with a high intensity strobe lamp. The color of the flashing light is clear white. The rate of flashing is 1-3 flashes per second. The intensity is 75-120 candela-seconds. The duration of flashing is approximately one millisecond (0.001 second). The visual signals

produced by these alarms are bright enough to alert hearing impaired residents nearby and safe enough to be viewed directly in every space of the house.

Independent smoke detectors with visual and audible signals were installed on the same surfaces and close to alarm light devices for the home security system. The smoke detectors have built-in transmitters



Photo of foyer -- shows the smoke detector and security alarm signal.

and receivers to communicate with the fire department through the TTY (telecommunications device) relay service device in the NCC. Once an alarm is activated, the resident receives a call from the TTY relay service to investigate the incident. The changes addressed the house-wide safety concerns for the residents and provided a thoroughly updated kitchen. □

Copyright 2004 UD&C - Authorization to photocopy items for the internal or personal use of specific subscribers is granted by **Universal Design Newsletter**. Any other reproduction in any form is prohibited without express permission from the Publisher.

Universal Design Newsletter is published quarterly by Universal Designers & Consultants, Inc., 6 Grant Ave., Takoma Park, MD 20912-4324; 301.270.2470 (v/tty); 301.270.8199 (fax). **E-Mail:** publisher@UniversalDesign.com. **Home Page:** www.UniversalDesign.com.

Publisher & Managing Editor: John P.S. Salmen, AIA; **Editor:** Denise M. Hofstedt; **Consulting Editors:** James DiLuigi, AIA, CSI, Elaine Ostroff, and Laurie Ringaert.

Universal Design Newsletter is published by Universal Designers & Consultants, Inc., which is frequently engaged by plaintiffs and defendants for consulting and expert witness services in ADA litigation, design review and facility evaluations.

Mail subscription rates: One year \$35 (U.S.). Second-class postage paid at Takoma Park, Md. Postmaster send address changes to **Universal Design Newsletter**, 6 Grant Ave., Takoma Park, MD 20912-4324, publisher@universaldesign.com. For information on advertising rates or obtaining alternative accessible formats, please call or write the **Universal Design Newsletter** Publisher.

Client: Bridget Ford, Owner, Bethesda, MD

Architect: Robert Nichols, Nichols Design Associates, Inc., Washington, DC
Email: NDArch@pipeline.com

Engineering Consultant: Joe Duarte, President, Duartek, Inc., Fairfax, VA
Email: duartek@aol.com

It has never been easier to find Universal Design-related information, products, services and resources.

Visit the newly designed:

www.UniversalDesign.com

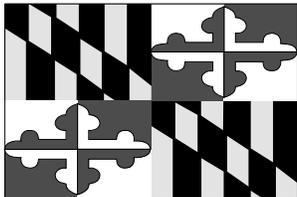
UDN subscribers -- log on now for your free access to archived issues of Universal Design Newsletter and lots more.



Maryland Achieves Certification

The Department of Justice (DOJ) recently announced its certification of the Maryland Accessibility Code as meeting or exceeding federal standards for accessible design. Maryland is the first state since 1998, and the fifth overall, to achieve state code certification. The DOJ previously certified Washington, Texas, Maine and Florida.

“Certification is truly a win-win scenario both for individuals with disabilities and Maryland businesses,” said R. Alexander Acosta, Assistant Attorney General for the Civil Rights Division, DOJ. “It will allow state officials and building code inspectors to check compliance early in the construction process, when mistakes are more readily caught and less expensively fixed.”



Maryland flag

The Americans with Disabilities Act (ADA) requires newly built and altered public accommodations and commercial facilities to be accessible to people with disabilities. It also permits states to submit their formally adopted accessibility codes for federal certification. If the state code meets or exceeds the level of access required by the federal standards, DOJ may certify it. Compliance with a certified state code is rebuttable evidence of compliance with federal accessibility regulations.

According to DOJ, by harmonizing federal and state standards, certification increases compliance and reduces regulatory burdens. As a certified state code incorporates standards comparable to the ADA, builders will find it easier to comply with federal requirements. In addition, because ADA certification provides rebuttable evidence of ADA compliance, satisfaction of state standards will provide builders with some degree of legal protection in ADA lawsuits. Finally, by streamlining the regulatory process and making accessibility standards more transparent, certification is likely to increase compliance, and thus increase the amount of public space that is properly accessible to individuals with disabilities.

“Maryland today joins a small, but banner,

group of states which have achieved this milestone,” said Acosta. “We hope that other states will soon follow.” At present, DOJ is working with California, Indiana, New Jersey, North Carolina, and Utah to certify their ADA equivalency. For more information, individuals can contact the Justice Department’s toll-free ADA Information Line at 800.514.0301 (v) or 800.514.0383 (tty), or visit www.ada.gov.

Courthouse Access Tops Board List of Priorities

Under a newly adopted plan, the the US Architectural & Transportation Barriers Compliance Board (Access Board) will undertake outreach activities on a yearly basis to highlight accessibility within a particular sphere or focus area. The goal of this program is to increase the visibility of different facets of accessibility in a manner that supplements the Board’s technical assistance and training programs, builds partnerships with other entities, improves compliance with access requirements, and showcases best practices for accessible design.

The Board has chosen access to courthouses as its first focus issue. Elevated spaces within courtrooms, such as judges’ benches and witness stands, and space limitations within the well of the court have posed challenges to designers as to how access can best be achieved. There has also been confusion over how to apply the guidelines for courthouses the board previously developed under the Americans with Disabilities Act (ADA) since they have not yet been incorporated into enforceable standards, including those governing the design of federal and state courthouses.

The Board plans to collaborate with agencies that oversee the construction of courthouses, such as the General Services Administration, on addressing these and other issues. The information to be developed will be relevant to federal, state and county courthouses. In coming months, the Board will be planning activities that will highlight access to courthouses and develop information on best practices for courtroom access. A meeting on the subject is tentatively planned for fall 2004 in Chicago.

See Reg/Leg Watch, page 6



“Certification is truly a win-win scenario both for individuals with disabilities and Maryland businesses.”

R. Alexander Acosta,
Assistant Attorney
General,
Civil Rights Division,
Department of Justice

The Impact of 'Grandfathering' Previous ADAAG Compliance

At its January meeting, the US Architectural & Transportation Barriers Compliance Board (Access Board) approved the revised Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines. The Board has submitted the final rule and regulatory assessment to the Office of Management & Budget (OMB) which has 90 days to complete its review.

"Barring any issues or snags, the Board would then proceed to publish the final version of the guidelines shortly after receiving OMB clearance," said an Access Board spokesperson.

The question of whether a facility compliant with the previous ADAAG will be considered compliant under the new standards continues to be debated. Neither the Access Board nor the Department of Justice (DOJ) has weighed in on the matter.

This is the second in a series of articles discussing the issue of "grandfathering" previous ADAAG compliance. The articles feature the opinions of people with an interest in accessibility issues. *Universal Design Newsletter* is asking this question to a variety of people. Send your opinion to: publisher@universaldesign.com, or 301.270.8199 (fax) for publication.

Viewpoint of Frederick A. Shotz

"The concept of 'grandfathering' is a building code concept," says Frederick A. Shotz, owner and president of ADA Consulting Inc. in Hollywood, FL. "A building does not have to be reconstructed when a local or state government amends its building codes. However, the [Americans with Disabilities Act (ADA)] is not a building code, it is a civil rights law. The [Americans with Disabilities Accessibility Guidelines (ADAAG)] is not a building code but a guideline that defines what constitutes accessibility, and by inference what constitutes architectural barriers. Architectural barriers are not simply 'code' violations but are barriers that obstruct the civil rights of people with disabilities. As our society evolves many behaviors that were acceptable in the past cease to be acceptable. Words that were socially acceptable to use in the past are not acceptable today. While the NAACP still exists no one would think of calling an African American "colored".

Grandfathering would allow that which is defined in the Revised ADAAG as inaccessible elements to be left in place in spite of the evolution of what constitutes the civil rights of people with disabilities.

The ADAAG has been and is being revised for two reasons. Some requirements in the current ADAAG have seen to be excessive. It makes little sense to require a 75,000-seat football stadium to have on hand 750 assistive listening system receivers. That is especially the case with such receivers costing more than \$250 each. The other reason for this revision, however, is that some important access issues are not addressed in the current ADAAG. If a requirement in the ADAAG has been found to not be sufficient to provide equal access to people with disabilities then the Revised ADAAG will provide a different requirement that resolves that problem. To grandfather all facilities constructed prior to the effective date of the Revised ADAAG is to allow identified barriers to exist for decades into the future. The 1964 Civil Rights Act did not grandfather businesses that had "Whites Only" and "Colored Only" restrooms and the Revised ADAAG should not grandfather buildings with identified barriers to equal access.

I strongly believe, and will work hard when the US Department of Justice publishes its Notice of Proposed Rulemaking for the Revised ADAAG, that all buildings constructed prior to the effective date of the Revised ADAAG remove all barriers to equal access when the removal of which is readily achievable. If a building has ramps that met the requirements of the original ADAAG but do not meet the requirements of the Revised ADAAG then the ramps should be fixed if doing so is readily achievable. Go ahead and grandfather buildings built under prior building codes but don't dare tell me that my civil right to equal access is dependant on when a building was constructed.

Viewpoint of Michael Lehrhoff

"What we want to avoid is the [Americans with Disabilities Act] version of double jeopardy," says Michael Lehrhoff, Of Counsel at Barnes & Thornburg, Washington, DC.

See 'Grandfathering', page 11

Architectural barriers are not simply 'code' violations but are barriers that obstruct the civil rights of people with disabilities.

Frederick A. Shotz,
ADA Consulting Inc.

Ostroff Honored with International Award

Pioneer Receives Misha Black Medal for Service to Design Education

Elaine Ostroff, one of the founders of the universal design movement in the US and international champion of the rights and aspirations of people with disabilities, has been awarded the 2004 Misha Black Medal for Distinguished Services to Design Education. Ostroff is only the third American honored since 1978 when the Misha Black Medal was created.

“Elaine Ostroff has been a persuasive influence on design education at all levels and an indefatigable champion of design that respects the needs and capabilities of older and disabled people, reflecting their aspirations and potential,” according to Mary Mullin, Chairman of the Sir Misha Black Memorial Medal Committee. “Importantly it is teaching those who legislate, finance, commission and produce, that thoughtful design can create a more inclusive and better world,” she said.

In 1961, Elaine Ostroff founded the Looking Glass Theatre in Providence, RI. Her work with children led to the transforming of institutional education environments with simple props developed with industrial designers from Rhode Island School of Design. Later she was instrumental in the establishment of a multi-disciplinary graduate program at the Massachusetts College of Art. The program emphasized the role of designers and artists in creating community-based projects for people with disabilities.

In 1978, she co-founded the Adaptive Environments Center in Boston, MA. It was the first non-profit organization in the US that addressed both teaching design skills to non-designers and the value of working with users to make inclusive environments. Her efforts supported consumers with disabilities and the movement for civil rights in the US, culminating in the Americans with Disabilities Act of 1990. Another result has been the *Universal Design Handbook*, co-edited by Ostroff and published by McGraw-Hill in 2001. Considered the encyclopedia of universal design, the handbook features

authors from every continent.

In 1992, Ostroff set up the Universal Design Education Project, working with faculty from 25 colleges and universities across the US. She has helped introduce similar schemes in Europe and Asia. She works closely with the American Collegiate Schools of Architecture (ACSA) to encourage the introduction of universal design into the teaching of architecture. The ACSA acknowledged this work with an award in 2003.

The Global Universal Design Educators Network that she established in 1998 has more than 300 members worldwide. She edits a website, Universal Design Education Online, www.udeducation.org, for design educators that ensures educators can share their social justice values in the service of a more equitable society. She is also a contributing editor to *Universal Design Newsletter*. 



Elaine Ostroff poses next to her photo, hung with previous award winners at the Royal College of Art in London on the evening the Misha Black Medal was presented.



“Elaine Ostroff has been a persuasive influence on design education at all levels”

Mary Mullin, Chairman, Sir Misha Black Memorial Medal Committee

Ostroff’s Colleagues Offer Tributes *In Their Own Words*

Jim Mueller, an Industrial Designer, has been designing for persons with disabilities since 1974.

I find it difficult to pinpoint when I first met Elaine since she, along with Ron Mace, shaped my earliest impressions of universal design. But I do remember vividly listening to her first describe with great energy and excitement her vision for the Universal Design Education Project. Back in 1992 it seemed a huge challenge, but somehow Elaine had already envisioned its success, and her confidence was contagious. When she asked me to serve as an advisor, I couldn’t resist. Because of Elaine’s vision, a significant portion of today’s designers began their careers already deeply committed to universal design.

Since then, Elaine’s trademark confidence and grace has continued to guide a diverse and sometimes fractious design community toward universal design. If she can be faulted, it is only for her patience. Like a truly gifted teacher, she has helped us develop our potential to work together across boundaries both geographic and professional. In the process she has taught us not only to think universal design, but to feel it as well.

See Own Words, page 14

New International Accessibility Standard Underway

By Betty Dion, Chair of ICTA – North America

It was recommended that a new symbol, to represent universal design or access for all be developed.

This is the first of a series of new columns from the International Commission on Technology and Accessibility (ICTA), a commission of Rehabilitation International.

The International Standards Organization (ISO) has convened a technical committee with the task of developing an international technical standard on accessibility. Named the TC59/SC16 Technical Committee on the Accessibility and Usability of the Built Environment, the committee is chaired by Eduardo Alvarez from Uruguay and the Chair of ICTA – Latin America.

The committee will be crafting an ISO Standard that can be used by countries that do not have a well-developed accessibility standard. The standard could be adopted by developing countries. It is expected that some developed countries will continue to work on their own standards beyond the scope of SC16. Once the draft document is completed, it will be sent to member groups for comment.

Working Groups Formed

The committee has established a number of working groups to address specific issues. One group is developing a draft document (N35E), which is a collection of input from various

members' countries including: the United Kingdom, Australia, Sweden, Madrid, Japan and Canada.

Another group is examining the use of accessibility symbols. It has reviewed a series of symbols used by Australia, U.K., Canada, etc. and is recommending that the international symbol of access be revised slightly to reflect a more representative human form. The ICTA currently holds the copyright for the International Symbol of Access. The World Blind Union has adopted a new symbol (<http://umc.once.es>). The symbol is a person walking with a white cane as shown in the adjacent image. The committee is in touch with other international consumer organizations to discuss the use of accessibility symbols.



It was recommended that a new symbol, to represent universal design or access for all be developed. A new design contest is recommended. Comments or questions can be directed to icta@bdel.ca or by visiting www.ictaglobal.org or www.starlingweb.com/ictana/ 

Reg/Leg Watch, *from page 3*

Project Panel Convened on Improving Indoor Air Quality

A panel organized to oversee a US Architectural & Transportation Barriers Compliance Board (Access Board) sponsored project on improving indoor environmental air quality held its first meeting in January near Washington, DC. This project, which is being conducted for the Access Board by the National Institute of Building Sciences, is focused on how building products, materials, ventilation, and maintenance can impact the quality of indoor environments for people who suffer from Multiple Chemical Sensitivity (MCS) and Electro-Magnetic Sensitivity (EMS). At its initial

meeting, members discussed strategies for collecting and disseminating information, selecting focus areas, increasing awareness of the issues involved, broadening participation in the project, developing recommendations for best practices, and identifying partners for further study and outreach. A public website will be set up to disseminate project information. Committee members include: Ann McCampbell, M.D.; Mary Lamielle; Susan Molloy; Toni Temple; Nicholas A. Ashford, Ph.D., J.D.; Mark C. Jackson; Claudia S. Miller, M.D., M.S.; Bruce M. Small, P.E.; James Wasley; Ron Burton; William Dean; Harry Gordon, FAIA; Brent Kynoch; and Roger Morse, AIA. 



Defining Universal Design

by Heather Lindsay

Jim Maurer, an architecture student at the University at Buffalo and research assistant at the IDEA Center, has produced a video to increase awareness of the basic principles of universal design. In the video, Maurer highlights common misconceptions of universal design as basic accessibility. In a recent interview with Heather Lindsay of the RERC, Maurer provided some insight into the purpose of the video, his involvement in the project, and what universal design means to him.

Heather Lindsay: What was the purpose of making this video?

Jim Maurer: The purpose of **Defining Universal Design** is to create an informative and hopefully interesting display for increasing awareness of the basic precepts of universal design. At a minimum, the video introduces the school of thought behind universal design and differentiates it from the common, yet mistaken, notion of accessibility.

Lindsay: What was your role in the making of the video?

Maurer: My role in the production of **Defining Universal Design** was that of writer, director, editor, and producer. I was fortunate to enjoy very gracious participation from a number of individuals consenting to the interviews evident in the video.

Lindsay: Who is the target audience for the video?

Maurer: The video is intended for dissemination to a wide variety of individuals. I have tried to make the content and style interesting enough to be appreciated by relatively uninformed or even skeptical individuals, but also to be informative to those who already have a basic understanding of universal design. As such, I feel the video is helpful to everyone, from the potentially unacquainted student or professional to the appreciative expert.

Lindsay: Why is this video important and to whom is it important?

Maurer: Defining Universal Design is an important production in that it dispels misconceptions commonly associated with the implementation of universal design. Hopefully it will increase designers' and clients' awareness of the existence of universal design, and since universal design tries to benefit all people, becoming informed about this approach should be important to everyone.

Lindsay: What is your definition of universal design?

Maurer: I think individual opinions or definitions can be misleading and a bit of a trap. Therefore, the video incorporates comments from a wide variety of folks with quite diverse backgrounds. My personal definition has probably led my editing decisions, to an extent, and is likely evident in the video itself.

Lindsay: How is universal design important in everyday life?

Maurer: 'Everyday life' is a curious term to apply to universal design. Really, 'everyday life' is exactly what universal design is about. We're all affected in so many ways by our surroundings, whether we realize it or not. To quote a portion of the video, 'it's inherent in the nature of design' to create environments that can be used by the broadest possible population in every aspect of life - from kitchen utensils to building systems.

To access the video files, visit:
www.ap.buffalo.edu/idea/e%2Dnewsletter/Eletter3.htm

Defining Universal Design is an important production in that it dispels misconceptions commonly associated with the implementation of universal design.

The contents of this insert are provided by the Rehabilitation Engineering Research Center (RERC) on Universal Design at Buffalo, which is sponsored by a grant from the National Institute on Disability and Rehabilitation Research (NIDRR) U.S. Department of Education (DOE). These contents, however, do not necessarily represent the policy of DOE. Readers should not assume an endorsement by the federal government.



Center for Universal Design Joins *UDN* Team

by Laurie Ringaert

Welcome to the inaugural Center for Universal Design (CUD) newsletter insert in the Universal Design Newsletter (UDN). I would like to thank UDN Publisher John Salmen for making this possible. The Center is an RERC (Rehabilitation Engineering Research Center) on Universal Design and the Built Environment similar to the RERC in Buffalo. In fact, we collaborate on a number of projects with Buffalo. I am pleased to serve as the director of the CUD and to work and discuss universal design with so many dedicated people both at the CUD as well as throughout the nation and the world.

We are currently involved in a variety of projects including research, design develop-

ment, training and education, technical assistance, publication development and information and referral services. We are very excited about our many projects and will highlight individual projects in each newsletter. In this issue we will discuss a housing project where we are examining the outcomes of some of our design work and the impact on the residents and the organization that built them. Visit our website at www.design.ncsu.edu/cud/ for updates on our efforts. 



Laurie Ringaert

Welcome to the inaugural Center for Universal Design (CUD) newsletter insert in the Universal Design Newsletter (UDN).

UD in Housing and the Delaware Assistive Technology Initiative

The growth in the number of older citizens and the recognition that all could benefit from homes that support activities throughout our life has helped produce an increasing interest in building homes that work well and look good, according to Richard Duncan, Coordinator of Training at the Center for Universal Design (CUD).

“The increase in the number of individuals with disabilities and older persons who currently live in homes has resulted in millions of households where members cannot fully use their homes and where their use is typically dangerous. Builders, remodelers and others are increasingly called on in these situations to help create homes that are more supportive, safer,

and that allow occupants more independence. Universal design helps to address these issues.”

In January, as part of the Delaware Assistive Technology Initiative to stimulate interest in promoting and helping expand the construction of universal housing, CUD delivered a seminar on universal design in housing. The seminar was designed to respond to the growing need for information about changing customer, design, and home construction issues in the 21st Century.

Seminar participants, including agency staffers, remodelers, architects, builders and allied health professionals, learned the fundamentals of universal design in housing and the basics of low cost and market rate universal home design features. They were also introduced to products and home building plans. 



CUD's Richard Duncan addresses participants at a seminar on Universal Design in Housing.

The contents of this insert are provided by the Center for Universal Design at North Carolina State University, which is sponsored by a grant from the National Institute on Disability and Rehabilitation Research (NIDRR) U.S. Department of Education (DOE). These contents, however, do not necessarily represent the policy of DOE. Readers should not assume an endorsement by the federal government.



Habitat for Humanity Housing Study

by Mine Hashas

Over the past two years the Center for Universal Design (CUD) has helped two North Carolina chapters of Habitat for Humanity introduce universal design features in their homes for the first time. The project helped the Habitat affiliates in Orange and Chatham counties in North Carolina change their standard house plans and provided partial funding for a number of homes. This project impacted not only the residents of these particular houses, but also the Habitat for Humanity affiliates, volunteers and others who help to build affordable housing projects all over the world.

The CUD is currently conducting an outcome study to measure the impact of its efforts on both the residents and Habitat for Humanity as an organization. The information gathered in the study will be used to enhance the center's ability to reach, communicate and provide services for the organizations, partners and users. Even though these research projects are not yet completed, the information provided by the interviewees has provided invaluable information and identified new universal design studies and design issues to be addressed.

The project initially built 15 houses from

1999 to 2000 with each house having a different array of universal design features. Construction and office staff and board members from Habitat for Humanity were interviewed in or-



This Habitat for Humanity house includes universal design features.

der to understand the technical feasibility (constructability) and marketability of the houses, as well as the organization's willingness to continue building houses with universal design features and if they made any changes to their policies. Participants were interviewed to determine usability, visitability, and satisfaction.

At this time, the interviews are being transcribed and a systematic analysis will begin soon thereafter.

This project impacted not only the residents of these particular houses, but also the Habitat for Humanity affiliates, volunteers and others who help to build affordable housing projects all over the world.

Technical Assistance/Dissemination Service News

The Center for Universal Design Information and Referral services handles hundreds of calls each year with requests ranging from homeowners wanting to know how to build ramps and allied health professionals looking for specific home modification products and architects looking for clarification of Fair Housing guidelines. The members of this unit, Nancy Hitchcock, Mike Carter and Elizabeth Ballinger, take pride in being able to answer many inquiries and often follow up with mailed or electronically transferred information.

However, if a request is one that they do not feel they can answer with authority, they direct callers to another source of information either within CUD or to one of the many national contacts kept in our extensive database. For tech-

nical assistance, call 800.647.6777 or email cud@ncsu.edu



Designing For The 21st Century III
An International Conference on Universal Design

Designing for the 21st Century III

December 8-12, 2004, Rio de Janeiro, Brazil

Never before in history have we been as varied in age and ability as we are at the start of the new century. Design matters more than ever. We must make choices about designing places, things, information and policies that not only reduce barriers but welcome everyone and enhance human health. Join **Adaptive Environments**, sponsors and collaborators in a dialogue between nations and across disciplines. For more information, visit www.AdaptiveEnvironments.org.

CUD Announces Three New Releases

Curbless Showers: An Installation Guide

This booklet, *Curbless Showers: An Installation Guide*, can help architects, builders, remodelers, installers and carpenters better understand the critical design and construction issues involved when installing curbless or "roll-in" showers.

Climbing in and out of a bathtub can be difficult and even dangerous for people whose balance, strength, or mobility may be limited. Some people who use a wheelchair find bathtubs and showers unusable.

This booklet introduces the curbless shower

and shows how the size and other details can be incorporated to successfully control water.

It is intended that the information provided in this booklet will increase the quantity and quality of curbless showers available so more people may bathe safely and independently.

To order this booklet, visit: www.design.ncsu.edu/cud. All new publications produced by the CUD are either announced on or made available for download through the CUD web site at

www.design.ncsu.edu/cud/



Curbless shower

"In fact, curbless showers offer benefits to many people who do not use wheelchairs, and are usable by almost everyone."

Wood Ramp Design: How to Add a Ramp that Looks Good and Works Too

In January, the Center for Universal Design (CUD) debuted a new publication, *Wood Ramp Design: How to Add a Ramp that Looks Good and Works Too*.

"For people with disabilities using a conventionally constructed home entrance with stairs can be hard or impossible," according to the book. "For these households, it may be necessary to construct a 'stepless' entrance as an alternative. Ramps are an option that can often create safer and easier entrances for a household member with a disability, or a visiting friend or relative with mobility problems."

This book is a starting point for remodelers, experienced do-it-yourselfers, volunteer groups,

carpenters and others who are considering the design and construction of wood ramps for single-family residences. This guide will help you design and build ramps that are smart, safe, and attractive."

Extensively illustrated, the book covers issues of materials, aesthetics, slopes, siting, guard and handrails, and costs and code compliance. Reference publications are listed to encourage exploration of other design and construction issues.

The book will be available from the Delaware Assistive Technology Initiative and through the CUD at www.design.ncsu.edu/cud/pubs/wood_ramp.htm.

Creating Inclusive Child Care Facilities: A Guide for Child Care Professionals

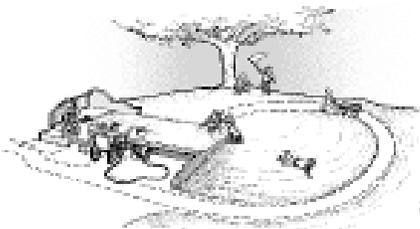
Developed by the Center for Universal Design (CUD), *Creating Inclusive Child Care Facilities: A Guide for Child Care Professionals*, provides information and strategies to ensure that childcare facilities are welcoming and useable for everyone.

"A supportive, accessible, and integrated universal environment teaches children, that they are valued members of society and their contributions are important," says Leslie Young

of the CUD. "Therefore, there is a responsibility to help child care administrators and change agents rethink their current physical and human environment."

It is not just about looking good - it's about being inviting and giving the environmental message that a "facility welcomes all people of all abilities," says Young.

This publication, created by the Center for Universal Design, is available from Easter Seals. To order, visit: www.design.ncsu.edu/cud or www.easterseals.com/site/PageServer?pagename=ntl_childcare_fiscal





Website Spotlight: ADA Document Portal

A new on-line library of Americans with Disabilities Act (ADA) documents is now available on line at: www.ADAportal.org. Developed by Meeting the Challenge Inc. of Colorado Springs, CO with funding from the National Institute on Disability and Rehabilitation Re-

search, this website makes available more than 3,400 documents related to the ADA, including those issued by federal agencies with responsibilities under the law. It also offers extensive document collections on other disability rights laws and issues.

Unlimited by Design Video Archive

The web cast of Bruce Hannah's discussion on universal design featuring the original planning for the 1998 exhibition at the Cooper Hewitt National Design Museum "Unlimited by Design" is now archived on the website for the National Center for Disability Services Arts and Cultural Initiatives.

This archive includes a question and answer session with Bruce Hannah that occurred following the original broadcast. To view, visit <http://ncds.org/rtd/rec/> click on the new Arts and Cultural Initiatives (ACI) website and find the archive under Connecting to Technology.

Bruce Hannah's presentation was recorded at a meeting of the Museum Access Consortium.

Improving Access to Polling Places

The Department of Justice has released new guidance to assist local election officials in ensuring that polling places are accessible to voters with disabilities. The new publication, the *ADA Checklist for Polling Places*, is being made available via the Internet.

The 33-page checklist covers a wide range of accessibility issues, including parking, passenger drop-off areas, walkways, building entrances and hallways, and use of the voting area. It helps election officials recognize and identify accessibility problems at the schools, churches, and public buildings that serve as polling places throughout the United States. The guideline offers practical, simple, and efficient solutions to remedying and eliminating barriers that prevent people with disabilities from voting or make it more difficult for them to exercise their franchise.

Starting on Jan. 1, 2006, jurisdictions throughout the United States will be required by

the Help America Vote Act (HAVA) of 2002 to provide at least one voting machine per precinct that is accessible by individuals with disabilities, in a manner that provides the same opportunity for access and participation, including privacy and independence, as for other voters. When this requirement becomes effective, disabled voters will finally be able to vote in private without assistance, a right that is taken for granted by other American voters.

The "ADA Checklist for Polling Places" is available online. To find the link, visit www.UniversalDesign.com or the Department of Justice ADA Home Page at www.ada.gov and www.ada.gov/votingck.htm and by telephone through the ADA Information Line at 800.514.0301(v) and 800.514.0383(tty). 

...the checklist covers a wide range of accessibility issues, including parking, passenger drop-off areas, walkways, building entrances and hallways, and use of the voting area.

'Grandfathering', from page 4

Lehrhoff says the goal of the statute was to minimize expenditures for businesses by requiring accessibility features be included in new construction, with only minimal, "readily achievable" modifications thereafter. Businesses that made the effort to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) as it existed should not be penalized because the rules have changed.

He notes that when the issue of "grandfathering" previous ADAAG compliance has been raised with officials at the US Architectural & Transportation Barriers Compliance Board (Access Board), the officials note those types of decisions must be made by the Department of Justice (DOJ) in its own rulemaking. "It would be difficult for DOJ to ignore the issue," he says. 

Sustainable Design, *from page 1*

students grows steadily. Media attention picks up appreciably each year. Yet, we are still far from the drumbeat generated by sustainable design.

We need to find common ground with sustainable design. In the July 2003 issue of *Universal Design Newsletter* (see Vol. 6, No. 7), the article "Sustainable, Affordable, Universal Housing" shows an excellent example from Australia. They call their project Smart Housing and offer a valuable set of categories under the umbrella of sustainability. Their three-part definition includes social sustainability (safe, secure and universally designed), environmental sustainability (resource efficient in water, waste and energy) and economic sustainability (cost efficient). This is an understanding of sustainability that is both useful and replicable. Universal design is a natural vehicle for defining social sustainability.

Another area of common ground between universal and sustainable design is the World Health Organization (WHO). Its International Classification of Functioning, Disability and Health (2002 ICF) offers a framework for health and disability that emphasizes health and functioning and turns away from the old person-based medical model in favor of a "biopsychosocial" model. This model is intended as a tool suitable for *all* people and not as a means to label some as "disabled." The new ICF specifically acknowledges the prevalence of chronic health conditions as the reason for functional limitations and treats physical and mental conditions equally. Health and functioning is assumed to change over time and change in relation to environmental factors. WHO's definition of the environmental context includes the natural and man-made environment but also social attitudes, institutions and laws. After 10 years of development, the new classification system was adopted by 191 member states of the World Health Organization prior to its formal announcement in 2002.

The ICF provides a structure for keeping our vision of universal design broad enough to encompass the role of design in relation to chronic health conditions and to mental or cognitive functioning. By choosing to make the tool a measure of *everyone's* functioning and stressing the power of the environment as either bar-

rier or facilitator, it invites a fresh consideration of the most people-centered aspects of sustainable design.

In addition, there is the Leadership in Energy and Environmental Design (LEED) Standards for New Construction and Major Renovations, Version 2.1, November 2002, Revised 3.14.03. The LEED Green Building Rating System is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. Each iteration of the LEED standards has refined and ex-



Fletcher

expanded the sections attentive to human health, comfort and well-being. There's an effort to measure and enhance the experience of all users. Predictably, Indoor Air Quality is a large element of measurement. Given that respiratory illness is the US disability with the highest prevalence rate among children under 18 and the fourth highest among adults, indoor air quality is an important universal design concern. Under the section of Daylight and Views, LEED promotes a standard for daylight in 75 percent of occupied spaces and views in 90 percent of occupied spaces. The section on Controllability of Systems pushes for high levels of thermal, ventilation and lighting system control by individual users. Taken together, one is reminded of Leslie Weisman's "three Cs" of universal design: comfort, confidence and control.

Aspects of the common ground between universal and sustainable design will be explored at the next Designing for the 21st Century conference on Dec. 8-12 in Rio de Janeiro. It will take the insight and experience of the international universal design community to more fully define the potential and to find common ground with sustainability. 

For a set of annotated resources on sustainable design, see: www.designfor21st.org/documents/sustainable_design_resources.doc

Valerie Fletcher is the Executive Director of Adaptive Environments, Boston, MA.

**Universal design is
a natural vehicle
for defining social
sustainability.**

Order Assist Drive-Thru Solution

In an effort to make the drive-thru component of restaurants more accessible for people who are deaf or hard of hearing, Inclusion Solutions has developed a system, known as Order Assist, that any drive-thru fast food restaurant can afford. Order Assist includes signage at the ordering menu that indicates how customers who are deaf or hard of



Order Assist

The Video Access Maze
Spreading the Word About Truly Accessible Design

Fully functional architecture needs to go beyond code compliance, according to the Minneapolis Advisory Committee on People with Disabilities (MACPWD). A new 22-minute video from the MACPWD, shows graphic simulations of accessibility challenges and solutions. The video describes the seven elements of “truly” accessible design, shows a variety of real life examples of fully accessible architecture and explains how accessibility can be achieved with minimal expense.

The idea of the “Access Maze” was developed by two architects and a designer who wanted to “get the word out on accessibility” to fellow design professionals. They developed the Access Maze, a full-scale model of the Americans with Disabilities Act Standards for Accessible Design. The maze was constructed to the guideline’s minimum standards and set up at several American Institute of Architects conferences. Individuals could experience the maze by using a wheelchair to try the different ramp slopes, bathroom transfers and fixture reach ranges.

The Video Access Maze is a training tool intended to bring the lessons of the Access Maze to a wider audience. For more information, visit www.accessmaze.org. 

hearing can request assistance. Customers can push a button that will ring an alert and flashes a light within the restaurant. When the customer pulls up to the appropriate window, a restaurant employee will hand a paper menu or a picture menu to allow the customer to place an order.

Golf Car

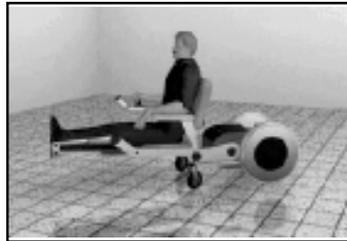
The 1-Pass/AteeA33 golf car features a stable four-wheel automotive suspension. Its 36-volt battery allows 54 holes of play on a single charge. It has ergonomic hand controls (left or right) and a multi-position, lockable 360-degree swivel seat. It’s front-mounted bag attachment allows for immediate access to golf clubs.



Golf Car

The Galileo Wheelchair

The Galileo Wheelchair is an electrically powered wheelchair for indoor and outdoor use. It offers users maneuverability, capability of overcoming stairs and steep inclines and traveling over a variety of terrains. The wheelchair features include the ability to lower the seat to floor level; raise the seat to a “standing” level; recline to full lying position; and keep the seated person at an optimal combination of balance and comfort on stairs and inclines which permits the unassisted ascent and descent facing the direction of motion.



Galileo Wheelchair

Sonic Boom Telephone Signaler

The Sonic Boom SBT425ss is a full-featured bedside alarm clock with telephone signaler, built in flashing lights, and powerful 12V bed shaker. This new telephone signaler has a hi/low display dimmer switch, a loud 113dB adjustable tone and volume and battery back up in the event of a power outage. 

Inclusion Solutions
(Order Assist)
6909 N. Western Ave.
Chicago, IL 60645
773.338.9612
(phone)
773.338.9615 (fax)
312.444.1967 (tty)
www.InclusionSolutions.com

Galileo Mobility Instruments
(Galileo Wheelchair)
www.galileomobility.com

CDS
(Sonic Boom Telephone Signaler)
15155 Technology Dr.
Eden Prairie, MN
55344-2277
888.296.3065 (v)
952.906.1826 (fax)
800.296.3033 (tty)

Club Car Inc.
(Golf car)
P.O. Box 204658
Augusta, GA 30917
800.227.0739, ext. 3258
www.clubcar.com

Now or Later: Deciding Which Projects Can Wait

Nearly empty-nesters and approaching age 50 with the rest of the baby boomers, my wife, Ann, and I have designed and built our new "Home for the Next 50 Years." In doing this addition to a historic building, we have attempted to carefully consider the universal design implications of every element and space while keeping in mind the actual users – our family and friends. This is an excerpt from my continuing journal investigating issues of universal design in the "Home for the Next 50 Years."

John P. S. Salmen, AIA

Some things should be made accessible at the time of construction and some things should be made accessible at a later time when needed. The decision depends, in part, on how hard it is to make them accessible (now or later).

Landscaping the Home for the Next 50 Years was a good example of that decision-making process. In order to have an accessible route from the public sidewalk to the entry of the house, we needed to change the slope of the driveway/walkway. This required a 4-foot high retaining wall alongside the front driveway. To soften this significant grade difference, we designed a terraced wall with an accessible raised garden.

We also realized that this was something we

had to do up front, because such a feature would be very difficult to retrofit to the site later. Since its construction we have found the raised bed to be both easier to maintain and more visually dramatic, since we can stand at the bed and comfortably dig and plant, and being raised, the plants are more visible than at foot level.

The rear yard offers similar grade level changes and accessibility opportunities. However, there was no pressing need for one design or another at the time of construction, so we postponed the design decisions until we have the time and energy or need for an

accessible kitchen herb garden, Japanese rock garden, or hot tub sanctuary (the current leaders in the domestic design discussion). The grass lawn we planted acts as a relatively low cost/low maintenance green "place holder" until the time we make such decisions. **L**



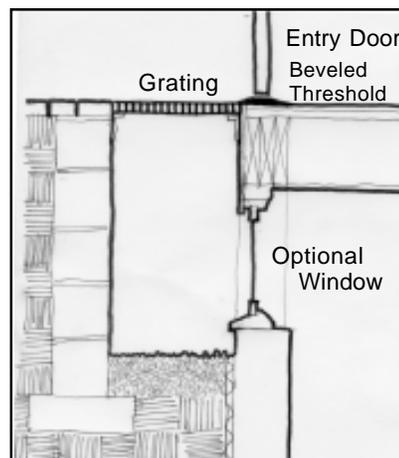
Editor's Note: Watch for The Home for the Next 50 Years in the annual Homes issue (May 2004) of Fine Homebuilding Magazine by Taunton Press.

DESIGN TIP

Grate Idea

? PROBLEM: How do you create a no-step entry for a visitable house?

TIP: Installing a trench and cover grate (with openings small enough to keep from trapping a wheelchair wheel or a high heel shoe heel) bridging the distance between the walk or stoop and the entry door threshold keeps the earth away from the wood portions of the house frame, while presenting a no-step entry and a shoe sole cleaning opportunity. Expanding the trench and grate can provide a light well for a below grade room under the entry space.



No Step Entry Grate Idea

May 3-6, 2004: 2004 National Association of ADA Coordinators Conference, Las Vegas. This conference covers new and updated issues for ADA coordinators, Section 501/504/508 compliance officers, human resources and risk management professionals, facilities planners, rehabilitation professionals, and transit/transportation professionals. Contact: 800.722.4232 or <http://janweb.icdi.wvu.edu/naadac/>

May 3-7, 2004: YAI/International Institute for People with Disabilities 25th Annual Conference on Developmental and Learning Disabilities, New York City. The conference will feature more than 300 speakers from the US and abroad. Contact: www.yai.org or awittenberg@yai.org.

May 7, 2004: Design for All Public Transport and Design for all in Education, Stockholm, Sweden. Sponsored by the Nordic Council on Disability Policy, the Nordic Council of Ministers, European Institute for Design and Disability (EIDD) Sweden, and EIDD-the European organization, this conference will feature presentations on current European initiatives and the results of the Nordic design competition as well as the Swedish and Belgium universal design education projects. Contact: nsh@nsh.se

May 20 (San Francisco), May 21 (Los Angeles), 2004: ADA Update Training. Sponsored by The Pacific ADA & IT Center (Pacific DBTAC) with DOJ and EEOC representatives. Contact: www.pacdbtac.org

June 16-17, 2004: Universal Package: Designing and Packaging for Everyone, Michigan State University, Lansing, MI. Sponsored by the

School of Packaging at Michigan State University and ISDA Michigan. The program will include multiple speakers from the industry and is for designers, manufacturers, marketers and retailers. Contact: www.universalpackage.msu.edu

Sept. -8, 2004: 7th International Federation on Ageing, 'Global Ageing: Sustaining Development,' Singapore. Sponsored by IFA and the Singapore Action Group of Elders. Contact: www.7ifaconference.com.

Sept. 8-10, 2004: Disabled Persons International (DPI) World Summit, Winnipeg, Manitoba, Canada. This summit is for national assemblies, disability organizations, NGOs, international development agencies, as well as local and national goods and services providers in the disability field to discuss and share information. Contact: www.dpi.org/en/events/world_summit/06-23-03_summit2004.htm

Oct. 4-7, 2004: Retrofitting for Accessibility, Yellowstone National Park. Sponsored by National Center for Accessibility, this training course is designed for maintenance professionals, facility managers, architects, access coordinators and planners. Contact: www.ncaonline.org.

Oct. 27-29, 2004: Open Space: People Space, An International Conference on Inclusive Environments, Edinburgh, Scotland. Hosted by OPENSspace, the conference will provide a forum to review recent research and debate current issues surrounding good design for open space and social inclusion. Contact: openspace@eca.ac.uk or visit www.openspace.eca.ac.uk.

Events to be placed in the UDN Calendar must be submitted to the editor two months before the publication date.

Universal Design Newsletter
6 Grant Avenue
Takoma Park, MD
20912

Address Correction Requested

