

PHRC News



PHRC

Getting in touch

Contact us to find out more about the PHRC or to obtain assistance.

www.engr.psu.edu/phrc

PHRC

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PENNSTATE



A tribute to Harvey Manbeck...



Dr. Harvey B. Manbeck, a Distinguished Professor of Agricultural Engineering at the Pennsylvania State University, retired in January of this year. At the same time, Harvey retired from the PHRC. His involvement and support will be sorely missed.

He was and still is a registered professional engineer. His particular research efforts were focused on wood engineering and the environmental control of agricultural building facilities. I sent many students to take his excellent course, ABE 462-Design of Wood Structures. He also ran two NDS Workshops for the PHRC.

His research efforts focused on wood-based materials, products and systems. Some of his wood engineering research efforts were directed at housing, and projects that he conducted with PHRC support were:

- "Alternate Framing Systems for Residential Construction."
- "Glue Joints Between Floor Joists and Sub-floor."
- "Moment Capacity of Metal Plate Connected Wood Trusses."
- "Response of Wood I-Joists Floor Systems to Several Retrofitting Alternatives"

Harvey was an active member and supporter of the PHRC. He participated in numerous Advisory Committee meetings and was known to many PHRC members. For four months in late 1995, he served as acting Director of the Housing Research Center at Penn State (as the PHRC was then known). Although he has formally retired, we hope to continue to make use of his knowledge and talents. On behalf of all of us involved with the PHRC, I would like to say thank you and to wish him well in retirement.

*By Eric Burnett
Hankin Chair
Director of Research*

Training

NEW IRC Refresher

This one-day program is the newest addition to the PHRC's training initiatives. It provides an overview of the differences between the 2000 IRC and the 2003 IRC and is intended for individuals who have experience with the 2000 IRC. It focuses on common code violations and how to avoid them. The program also provides an overview of the Uniform Construction Code (UCC) regulations and how they will be implemented. Building code officials, builders, remodelers and design professionals will benefit.

Building Code Training

The mission of the PHRC is to improve the quality and affordability of housing in Pennsylvania. Facilitating the implementation of Pennsylvania's new building code is consistent with our mission. It is also part of our responsibility to the home building industry and the citizens of Pennsylvania.

Currently the PHRC has developed 11 code-related training programs, three of which are new (see description below). These programs are targeted at a wide variety of audiences including builders, remodelers, trade contractors, design professionals, vocational-technical teachers as well as building code officials. The table below provides an overview of the training programs the PHRC has delivered plus the number of attendees.

Program Summary—January 2001 - July 2004		Programs Held	Attendees
General	Comprehensive International Residential Code	96	3,618
	BOCA/CABO Transition Program	16	612
	Overview of the IRC's Plumbing Requirements	8	211
	Overview of the IRC's Mechanical Requirements	9	284
	Pennsylvania's New Energy Code	15	533
	IRC Update Program	3	56
	Other (PCMA, Moisture Control, Stormwater, etc.)	31	1,331
Code Officials	Comprehensive International Residential Code	12	345
	Overview of the IRC's Plumbing Requirements	9	195
	Overview of the IRC's Mechanical Requirements	11	217
	Pennsylvania's New Energy Code	15	361
	TOTAL	225	7,763

Research

Ventilation Drying in Walls

The PHRC is in the process of completing a major R and D project. This project, titled "Development of Design Strategies for Rainscreen and Sheathing Membrane Performance in Wood Frame Walls," was initiated and supervised by ASHRAE.

The overall objective was to study the mechanics of ventilation in screen-type wall systems and to assess the potential for ventilation drying for common, above-grade, residential wall systems. The screen-type cladding and the external membrane to the exterior sheathing are two important constituent layers in these residential wall assemblies. Much of the work has relevance to building enclosures other than wood-frame house construction.

Project funding was provided by ASHRAE, the National Science Foundation and the HUD/Path program, the Department of Civil and Environmental Engineering at Penn State, and both the Hankin Endowment and the Commonwealth of Pennsylvania via the annual base funding for the PHRC.

Three institutions were involved in the project: the Pennsylvania Housing Research/Resource Center at Penn State, University of Waterloo in Canada, and at Oak Ridge National Laboratory.

The project was an international, multi-agency effort that made efficient use of facilities and expertise. The ability to do material testing, to test model and full-scale wall assemblies both in the lab and in the field, and to develop and use computer simulation was an important feature of this project.

Some of the important findings are:

- Ventilation behind the cladding does facilitate drying of a wall system;
- Natural buoyancy, wind, or both can provide more than enough air flow to cause drying;
- Lateral, for example horizontal air flow behind vinyl siding, can be effective; and
- The contribution of ventilation can be modeled fairly accurately.

For more information on this project, contact Eric Burnett, the Director of Research for the PHRC.

Factory Built Housing



Rick Terry Named Director of Factory Built Housing Center

In April 2004, Penn College of Technology named Rick Terry to the newly created position of Director of the Factory Built Housing Center. The Center now oversees both the Modular Housing Training Institute (MHTI) as well as the Manufactured Housing Resource Center (MHRC).



Terry has more than 15 years experience in the modular industry at the builder and manufacturing level as well as four years in secondary education. Terry has degrees in business and education. He will draw upon his industry experience to further develop the Factory Built Housing Center's training programs.



MHRC Update

The Manufactured Housing Resource Center (MHRC) serves to elevate the status of the manufactured housing industry through the development of a sustainable educational program and a resource center for those involved in the on-site completion of manufactured homes.

The MHRC course conducted by Penn College has announced two upcoming courses scheduled for Fall 2004:

- September 22-23 Western PA (TBD)
- November 17-18 Harrisburg

Additional information on the course and other activities of the MHRC, can be found online at www.pct.edu/mhrc. For additional information, contact Rick Terry at (570) 327-4768.

MHTI Going Online

The Modular Housing Training Institute (MHTI), a division of Pennsylvania State University's Penn College of Technology, is currently developing an online version of its popular modular builder training course. The online version of the course will cover all subject areas that the traditional course covers, including site and foundation preparation, scheduling, completion and finishing. Penn College anticipates that the online course will be fully developed by early 2005. For those who prefer the traditional course setting or cannot wait for the online course, MHTI is offering its traditional course at Penn College on the following dates:

- September 13-14, 2004
- October 12-13, 2004
- November 9-10, 2004
- December 7-8, 2004
- January 12-13, 2005
- February 1-2, 2005
- February 23-24, 2005
- March 8-9, 2005
- March 30-31, 2005

MHTI also offers its course on-site. For more information about on-site offerings, or any other aspect of MHTI, please visit its web site at <http://www.pct.edu/mhti>.



Land Development

Residential Development Guidelines

The Pennsylvania Housing Finance Agency recently awarded the PHRC a \$150,000 contract to create a set of model residential development guidelines for Pennsylvania. The purpose of this project, initiated with a start-up grant of \$5,000 from the Pennsylvania Builders Association in late 2003, is to create uniform site-development guidelines (road, water, sanitary sewer, storm sewer, etc.) that are based on science, reasonable engineering judgment, and good planning practices. The PHRC aims to make these guidelines available for use as model ordinances that can be adopted off-the-shelf by local municipalities or counties across the state.

Standard residential development guidelines have been identified as urgently needed by all major stakeholders in the development process including builders, local municipal officials, regulatory agencies, design professionals, and environmental groups alike. Many of Pennsylvania's 2,567 municipalities are currently using land development and subdivision standards that create barriers to affordable and sustainable residential development. For example,

many road standards require excessive road widths and curbing which impact both housing affordability and sustainability.

To facilitate acceptance, development will be guided by an oversight committee or consortium made up of representatives of all major stakeholder groups in the land development process. The first meeting of the consortium was held on July 29th in State College and included representatives from DEP, PennDOT, the Governor's Policy Office, local municipal officials, environmental groups, planning organizations, land use attorneys, and design professionals.

The project is scheduled to last about two years, with the oversight committee meeting on a bi-monthly basis. Funding secured to date will cover approximately 60% of project costs. PHRC staff are actively pursuing additional sources of funding to ensure completion of this critically important project. For additional information, contact Scott Brown at (814) 863-2990.



PHRC Explores Creation of Land Development Sub-committee

The land development process in Pennsylvania involves a diverse mix of stakeholders including developers, builders, design professionals, land-use attorneys, planners, regulatory agencies, municipal officials, and environmental groups, as well as private citizens. Although land development is one of the largest industries in Pennsylvania, there is no single organization where representatives of these diverse groups can come together to discuss issues of importance.

The PHRC is reviewing the feasibility of putting together a group that will act as part of our industry advisory council. This subcommittee would provide guidance and direction to the PHRC's activities that focus on land development issues. For additional information, contact Scott Brown at (814) 863-2990.

Back by Popular Demand...

Stormwater Symposium—Scheduled for Fall '04

Based on the overwhelming success of the introductory stormwater workshops offered during the summer of 2003, the PHRC will offer a two-day stormwater workshop in the fall of 2004. New stormwater regulations require the analysis of infiltration practices to control the peak-rate, volume, and quality of storm runoff from developments. This workshop will focus on infiltration processes and computational methods for infiltration analysis and design. Mark your calendar and notify your design professionals! The workshop has been tentatively scheduled for November 4th and 5th in State College. For more information, visit our web-site www.engr.psu.edu/phrc.

PHRC Members

Leadership

Blair County Builders Association
 Bradford & Burns
 Builders Association of Northwestern PA
 Cannon Custom Homes
 CertainTeed Corporation
 Dow Chemical Company
 DuPont Nonwovens
 Glunt Development Co., Inc.
 Governor's Office of Housing & Community Revitalization
 Granor Price Homes
 Hankin Group
 HBA of Metropolitan Harrisburg
 HBA of Chester and Delaware Counties
 Indiana-Armstrong Builders Association
 Lebanon County Builders Association
 Lehigh Valley Builders Association
 Liberty Homes Custom Builders
 Mercer County Builders Association
 Newsome, Roy
 North Suburban Builders Association
 Office of Community Development & Housing
 PA Department of Community & Economic Development
 PA Manufactured Housing Association
 PennBoc
 Pennsylvania Association of Code Officials
 Pennsylvania Builders Association
 Pennsylvania College of Technology
 Pennsylvania State University
 Superior Walls of America, Ltd.
 York County Builders Association

Supporting

Benjamin Obdyke Incorporated
 Builders Association of Central Pennsylvania
 Cedar Knoll Builders
 Comfort Home Corporation
 Greater Dubois Builders
 HBA of Berks County
 Independent Quality Assurance
 Irwin Contracting
 Lackawanna HBA
 Pennsylvania Concrete Masonry Association
 Pennsylvania Housing Finance Agency
 Pulte Home Corporation
 Ryland Group, Inc.
 S&A Homes
 T.H. Properties
 Wayne County Builders Association
 Weyerhaeuser Company

Patron

Adams Township
 Alan Hawman Architect
 Alpine Contracting Company
 Avignon Homes, Inc.
 Borough of Fox Chapel
 Clay Township
 Comfort Supply, Inc.
 Cross Keys Homes & Building, LLC
 Crouse and Company of Somerset, LLC
 Devland Corporation
 Dewey Homes
 E&M Engineers
 East Petersburg Borough
 Engineering Projects Incorporated
 Fine Line Homes, Inc.
 Franklin County Builders Association
 Franklin County Career & Technical Center
 Gluszko Architects, P.C.
 JHW C/M Consultant
 Jones Township
 Kohlhepp Stone Center
 Kunselman Electric Inc.
 MaGraan Associates
 Millersville Borough
 Nolen Companies, Inc.
 Paul Kearney Inspections, Inc.
 Perry L. Cisney Inc.
 Peters Township
 Pure Energy
 Queen Engineering
 Ray-Core, Inc.
 Real Estate Buyer's Association
 Ryan Homes
 Somerset County Builders Association
 Somerset County Technology Center
 Spectrum Properties
 Stratton Homes
 T.H. Properties
 U.S. Spray Systems
 Upper Darby Township
 UpStreet Architects, Inc.
 Westmoreland Professional Builders Assoc.
 Whitehall Township

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Calendar of Events for 2004

Training Programs for General Audience:

Comprehensive International Residential Code

October 4-5	Lehigh Carbon Community College*
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Overview of the IRC Plumbing Requirements

September 2	Air Conditioning Contractors Assoc.*
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November 11-12	PACO
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Overview of the IRC Mechanical Requirements

August 25	Lyon, Conklin & Company, Inc.
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August 26	T.H. Properties
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Other

IBC Masonry Requirements Program

August 25	PA Concrete Masonry Assoc.
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Moisture Control Program

October 5	Prof. Engineers in Private Practice
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Stormwater Workshop

November 4-5	Pennsylvania Housing Research Center
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Training Programs for Code Officials:

Comprehensive International Residential Code

August 30-31	Pennsylvania Housing Research Center
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November 4-5	PCCA (Butler County)*
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November 4-5	PCCA (Cumberland County)*
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Overview of the IRC Plumbing Requirements

September 16-17	PA Association of Plumbing/Heating
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Overview of the IRC Mechanical Requirements

December 2-3	PCCA (Butler County)*
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December 2-3	PCCA (Lehigh County)*
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Overview of the IRC Energy Requirements

November 12	PCCA (Centre County)*
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November 12	PCCA (Lehigh County)*
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PHRC Industry Advisory Council Meeting:

October 7 (Note: date changed)	Meeting in Harrisburg
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*Tentatively scheduled programs

For details on these programs, visit www.engr.psu.edu/ctc.